REQUEST FOR PROPOSALS

TO DESIGN, AND CONSTRUCT

THE
PROJECT

THROUGH A

DESIGN BUILD AGREEMENT

P.I. No. 0015524

INSTRUCTIONS TO PROPOSERS

GEORGIA DEPARTMENT OF TRANSPORTATION

RFP Issued: June 23, 2017

Proposals Due: July 21, 2017 at 11:00 a.m. EST

Georgia Department of Transportation
One Georgia Center
600 West Peachtree Street, NW
Atlanta, Georgia 30308

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SECTION 1.0 INTRODUCTION AND GENERAL PROVISIONS

1.1 Introduction

The Georgia Department of Transportation ("GDOT"), an agency of the State of Georgia ("State"), issued a Request for Qualifications ("RFQ") for the FY 17 Bridge Replacement Project (as described in more detail in Section 1.3, the "Project") on February 3, 2017. Next GDOT issued a Request for Proposals, dated June 23, 2017 ("RFP") [and subsequently amended], as the second step in the procurement process for the Project, pursuant to Section 32-2-81 of the Official Code of Georgia Annotated ("Code"), Chapter 672-18 of the Rules of the Georgia Department of Transportation ("Rules"), and other applicable laws and guidelines.

The RFP solicits competitive detailed Proposals (as described in more detail in Section 1.5.1) to develop the Project by means of a Design-Build Agreement (the "DB Agreement") between the successful Proposer and GDOT. Under such DB Agreement, the Design-Build Team will be required to design and construct the Project during the contract period.

Following the release of initial RFP, Proposers may submit questions regarding the RFP, in accordance with the procedures set forth in the RFP. In response to feedback and input received from the Proposers and other stakeholders, GDOT may opt to issue Addenda to the RFP. In the event that GDOT issues any Addenda to the RFP, the Addenda may supplement or replace the RFP in whole.

Proposals will only be considered from those entities that are selected as the qualified Proposers based on their Statements of Qualifications ("SOQs") submitted in response to the RFQ. This set of Instructions to Proposers ("ITP") provides instructions to be followed by Proposers in their responses to the RFP. Proposals must comply with the ITP requirements.

Refer to Exhibit 1 of the DB Agreement hereto for the meaning of various capitalized terms and acronyms used but not defined herein. Unless otherwise specified, references to Sections, Exhibits and Forms shall mean Sections of the ITP and Exhibits and Forms attached to the ITP. All times in this ITP are Eastern Standard Time (EST) or Eastern Daylight Time (EDT), as applicable.

1.2 RFP Documents

The RFP consists of the items listed below, and any other documents that may be issued by Addendum, as such documents may be amended and supplemented:

- Instructions to Proposers (ITP) (including the attached Exhibits and Forms);
- DB Documents (including the DB Agreement); and

- Reference Information Documents (RID).

Refer to Article 1.2 of the DB Agreement for a list of the DB Documents and their order of precedence. The RIDs are listed on Exhibit H hereto.

The ITP and the RIDs are not contract documents and will not form a part of the DB Documents. GDOT does not make any representation or guarantee as to the accuracy, completeness, or fitness of the RIDs. GDOT does not take any responsibility for the RIDs and Proposers are responsible for any conclusions they may draw from the RIDs. GDOT is making the RIDs available to Proposers for the sole purpose of providing information in the possession of GDOT, regardless of whether such information is accurate, complete, pertinent, or of any value.

1.3 General Project Description

The Project is to design and construct the replacement of bridges.

The Design-Build Team will provide design and construction services necessary to replace bridges at locations identified in Volume 2, Attachment 1-1.

The Design-Build Team will be responsible for the design and construction of the Project during the contract. As part of such Construction Work, Design-Build Team will be responsible for undertaking and completing certain Utility Adjustments pursuant to Section 7.5 of the DB Agreement and the Technical Provisions.

1.4 Procurement Schedule

The procurement schedule is as follows:

	Activity	Date	Time
1.	GDOT Advertises RFP	06/23/2017	----------
2.	Deadline for Proposers to submit questions regarding RFP	06/30/2017	11:00 AM
3.	Deadline for submission of changes to Proposer's organization	07/07/2017	11:00 AM
4.	**Proposal Due Date**	**07/21/2017**	**11:00 AM**
5.	**Letting**	**07/21/2017**	**11:00 AM**

All dates set forth above and in the RFP are subject to change in GDOT's sole discretion. To the extent such dates are changed, GDOT shall formally notify Proposers through the project advertisement through the Electronic Bid Submission website (Bid Express™) provided in Exhibit D. All times in this ITP are EST or EDT, as applicable.

1.5 General Provisions Regarding Proposals

1.5.1 Proposal Contents

As used in this procurement, the term "Proposal" means a Proposer's complete response to the RFP, including Proposer's:

(a) Administrative Information Submittals;

(b) Technical Proposal for the Project; and

(c) Price Proposal for the Project.

Detailed instructions regarding the Administrative Information Submittals, the Technical Proposal and the Price Proposal are provided in Exhibits B through D. Forms required for inclusion in the Proposals are attached to this ITP. Each Proposal component shall be clearly titled and identified and shall be submitted without reservations, qualifications, conditions or assumptions. Any failure to provide all the information and all completed Forms in the format specified by the ITP may result in GDOT's rejection of the Proposal. All blank spaces in the Proposal forms must be filled in as noted. No substantive change(s) shall be made to the Proposal Forms.

1.5.2 Inclusion of Proposal in DB Documents

Portions of the successful Proposer's Proposal will become part of the DB Documents, as applicable and to the extent specified in the DB Agreement. All other information is for evaluation purposes only and will not become part of the DB Documents.

1.5.3 Commitments in the Proposal

GDOT will give no consideration to tentative or qualified commitments in the Proposals. For example, GDOT will give no consideration to phrases such as "we may" or "we are considering" or phrases of a similar nature in the evaluation process because they do not indicate a firm commitment.

1.5.4 Property of GDOT

All documents included in the Proposals submitted by Proposers in response to the RFP shall become the property of GDOT and will not be returned to Proposer.

1.6 Improper Conduct

1.6.1 Prohibited Activities

If Proposer, or anyone representing Proposer, offers or gives any advantage, gift, gratuity, discount, bribe, or loan of any sort to GDOT, the State Transportation Board, or officers, administrators, staff or consultants of GDOT, including agents or anyone representing the foregoing at any time during the Project procurement process: (1)

GDOT shall immediately disqualify Proposer; (2) Proposer shall forfeit its proposal guaranty; (3) Proposer shall not be entitled to the Payment for Work Product; or (4) GDOT may sue Proposer for damages.

1.6.2 Non-Collusion

Proposer shall not undertake any of the prohibited activities identified in the Non-Collusion Affidavit.

1.6.3 Organizational Conflicts of Interest

Proposers are advised that the Conflicts of Interest Policy and the organizational conflict of interest rules found in 23 Code of Federal Regulations (C.F.R.) § 636, Subpart A, including 23 C.F.R. § 636.116, apply to this procurement.

Each Proposer must include in its Proposal a full disclosure of all potential organizational conflicts of interest within its team.

Proposer is prohibited from receiving any advice or discussing any aspect of the Project or the procurement of the Project with any person or entity with an organizational conflict of interest, including, but not limited to the entities and individuals listed in Exhibit G (List of GDOT Project Team); and any parent, affiliate, or subsidiary of any of the foregoing entities, or an entity that is under common ownership, control or management with any of the foregoing entities.

By submitting its Proposal, each Proposer agrees that, if an organizational conflict of interest is thereafter discovered, Proposer must make an immediate and full written disclosure to GDOT that includes a description of the action that Proposer has taken or proposes to take to avoid or mitigate such conflicts. If the Apparent Successful Proposer was aware of an organizational conflict of interest prior to award of the DB Agreement and did not disclose the conflict to GDOT, GDOT may terminate the Proposal for default and may award the DB Agreement to the next highest Proposer.

1.6.4 Restrictions on Participation

Proposers are advised that the following entities and individuals are precluded from submitting a Proposal and from participating on a Proposer team as a Participating Member, Major Non-Participating Member, Contractor, Subcontractor or subconsultant:

(a) any entity or individual listed in Exhibit G (List of GDOT Project Team). GDOT has contracted with these entities or individuals, as the case may be, to aid in the development of the RFQ, RFP, estimates or scope of services for the Project, or to participate in the SOQ or Proposal evaluation process;

(b) any entity that is a parent, affiliate, or subsidiary of any of the entities listed in Exhibit G, or that is under common ownership, control or management with any of the foregoing entities; and

(c) any Contractor who is currently suspended, debarred or voluntarily excluded under 49 C.F.R. Part 29 or is otherwise determined to be ineligible to participate in the federal-aid highway program.

1.6.5 No Participation on More Than One Proposer Team

To ensure a fair procurement process, Participating Members and Major Non-Participating Members of Proposer teams are forbidden from participating, in any capacity, on another Proposer team during the course of the Project procurement (i.e., until execution of the DB Agreement by GDOT). The foregoing prohibition extends to affiliated entities of Participating Members and Major Non-Participating Members. GDOT reserves the right to disqualify any Proposer that fails to comply with this prohibition. If a Proposer has any question as to whether or not its proposed team would be in compliance with the terms of this Section 1.6.5, such Proposer may submit the issue to GDOT in writing, describing in reasonable detail the proposed structure and seeking clarification.

1.6.6 Reserved

1.7 Reserved

1.8 DBE Participation

The purpose of this section is to establish criteria for acceptability of Disadvantaged Business Enterprise (DBE) firms for Work performed on this contract. The intent is to ensure all participation counted toward fulfillment of the DBE goals are (1) real and substantial, (2) actually performed by viable, independent DBE owned firms, and (3) in accordance with the spirit of the applicable laws and regulations.

The policy of the GDOT is to ensure compliance with Title VI of the Civil Rights Act of 1964, 49 C.F.R, Part 26 and related statutes and regulations in all program activities.

GDOT does not discriminate and shall take all necessary and reasonable steps to ensure nondiscrimination on the basis of race, color, sex or national origin in the award, administration and performance of any GDOT assisted contract or in the administration of its Disadvantaged Business Enterprise Program.

All Proposers shall submit the completed “Construction Contractors Bid Opportunity List” to GDOT in accordance with ITP Exhibit D.3.5 as a matter of Proposer responsibility.

DBE payments and commitments shall be separate and distinct and cannot be transferred or combined in any matter.

The DBE Goal specified in the DB Agreement will be a percentage representing the DBE Race Conscious Participation. The DB Team will strive to achieve an additional percentage during the course of the current State Fiscal Year, in order to assist GDOT in meeting the overall State DBE goal. The Proposer is encouraged to meet this goal throughout the Term of the Agreement.

GDOT's overall statewide DBE goal is fifteen percent (15%) of the overall Project design and construction costs, with respect to the race conscious participation by the DB Team. For further information regarding GDOT's DBE program and the DB Team's DBE obligations, Proposers may contact GDOT's Equal Opportunity Office, at (404) 631-1972. GDOT will be undertaking public outreach efforts during the procurement process to facilitate the identification of DBE firms and employment opportunities for minorities and women.

1.9 Reserved

1.10 Status of Environmental Documents

1.10.1 Project

The Environmental Documents are being pursued for the Project by GDOT in coordination with the concept design efforts.

GDOT will be preparing the Environmental Documents and associated studies. See Attachment 1-1 for additional project requirements.

1.11 Qualification of Construction and Design Firms

Proposers shall ensure that the entities identified in Sections 1.11.1 and 1.11.2 have satisfied the pre-qualification requirements set forth in this Section 1.11.

In addition, before commencing performance of any Work, all firms must register to do business in the State. This can be accomplished by contacting the Georgia Secretary of State Corporations Division Office at (404) 656-2817 or visiting their website at:

http://www.sos.ga.gov/corporations/.

1.11.1 Required Pre-Qualification for Contractors

The Lead Contractor shall be pre-qualified with GDOT prior to the Proposal Due Date. If the roadway work is not performed by the pre-qualified Lead Contractor, the entity performing the roadway work shall also be pre-qualified prior to initiating any Work. Any proposed changes to the team must be approved by GDOT.

The pre-qualification process involves, but is not limited to submitting (a) a completed contractor qualification form and (b) financial statements to GDOT. For further information regarding the pre-qualification process, please see:

http://www.dot.ga.gov/PS/Business/Contractors

1.11.2 Required Pre-Qualification for Engineers

Proposer shall ensure the use of entities prequalified in related disciplines (design, traffic analysis, geotechnical, NEPA, construction, etc.) as presented in the SOQ. Any proposed changes to the team must be approved by GDOT. All Work must be performed by entities which are prequalified by GDOT.

If Proposer's design for the Project includes Design Work outside the scope of the area classes set forth in the RFQ, at least one team member shall be prequalified with GDOT in the appropriate area class.

The pre-qualification requirement does not apply to any area class that is not implicated by a Proposer's design for the Project. The pre-qualification process involves submitting (a) a pre-qualification form and (b) grid sheet to GDOT. For further information regarding the pre-qualification of engineers, please see: http://www.dot.ga.gov/PartnerSmart/Business/Prequalification/Pages/default.aspx

1.11.3 Pre-Qualification Assistance

For assistance with the contractor pre-qualification process, call (404) 631-1213. Proposers can obtain assistance with the engineering pre-qualification process by contacting the Transportation Services Procurement office at (404) 631-1426 or consultants_prequals@dot.ga.gov.

1.11.4 Establishment of Single Purpose Entity(ies)

If the Apparent Successful Proposer contemplates the creation of one or more single purpose entities as the parties to execute the DB Documents, Proposer is required to establish each such single purpose entity and submit executed copies of the articles of incorporation and any other corporate formation documents for the single purpose entity to GDOT within sixty (60) days of GDOT's announcement of the Apparent Successful Proposer. Proposers anticipating the creation of any such single purpose entity must include pro forma corporate formation documents in the Proposal, as described in Exhibit B. Failure to meet the requirements in this Section 1.12 will result in forfeiture of the proposer proposal guaranty. Establishment of the single purpose entity(ies) (if any) is a prerequisite to execution of the DB Documents.

SECTION 2.0 PROCUREMENT PROCESS

2.1 Method of Procurement

GDOT is issuing the RFP in accordance with the provisions of Sections 32-2-81 of the Code, Chapter 672-18 of the Rules and other applicable laws and guidelines. GDOT will award the DB Documents (if at all) to the Proposer that submits the Lowest Qualified Price Proposal. Subject to Section 8.1, GDOT will base the evaluation of

Proposals on information submitted in the Proposals, and will involve both pass/fail evaluation factors and price criteria, as further detailed in Section 5 below and in the Exhibits to this ITP.

2.2 Communications between GDOT and Proposers

The RFP will be issued to Proposers in electronic format on the electronic bidding website for the Project as defined in Exhibit D. Additional project information may be contained on a Sharepoint site for the Project (the "Sharepoint Site"). The Sharepoint Site can be found at the address below and by clicking on the Project's PI. No. Each Proposer will be required to check the electronic bidding website and Sharepoint site regularly for Addenda to the RFP and for other procurement related information.

http://teams.dot.ga.gov/offices/IPD/SitePages/Home.aspx

2.2.1 Designated Point of Contact

The following individual has been designated as the Contracting Officer for the Project (the "Authorized Representative"):

Rich Williams
Construction Bidding Administrator
Georgia Department of Transportation
One Georgia Center
600 West Peachtree Street, NW
Atlanta, Georgia 30308
E-mail: **fy17bridges@dot.ga.gov**

From time to time during the procurement process or during the Term of the DB Documents, GDOT may designate another Authorized Representative to carry out some or all of the obligations pertaining to the Project.

2.2.2 Rules of Contact

Unless specifically authorized elsewhere in this ITP, the Authorized Representative, as may be changed in writing by GDOT, is the single contact and source of information for this procurement.

The rules of contact set forth in this Section 2.2.2 shall apply during the Project procurement process, commencing with the issuance of this ITP. These rules are designed to promote a fair, unbiased, and legally defensible procurement process. Contact includes face-to-face, telephone, electronic-mail (e-mail), text or any other form of formal written communication.

The specific rules of contact are as follows:

(a) Neither a Proposer nor any of its team members may communicate with another Proposer or members of another Proposer's team with regard to

the RFP or either team's Proposal. This prohibition does not apply to (1) Proposer communication with a Contractor that is on both its team and another Proposer's team, provided that the Contractor shall not act as a conduit of information between the two Proposers; and (2) public discussion regarding the RFP at GDOT-sponsored informational meetings.

(b) Unless otherwise specifically noted in this ITP or authorized by the Authorized Representative, all Proposer communication with GDOT will be between Proposer's identified representatives and the Authorized Representative. All such communication must be in writing (by e-mail).

(c) Under normal circumstances, the Authorized Representative will contact a Proposer in writing through Proposer's designated representative.

(d) Continuing until the earliest of (1) execution and delivery of the DB Documents, (2) GDOT's rejection of all Proposals or (3) cancellation of the Project procurement, neither a Proposer nor its agents may have ex parte communications with GDOT employees, members of the Technical Review Committee, the Bid Review Committee, the State Transportation Board, any other person who will evaluate Proposals and any person identified in Section 1.6.4, regarding the Project, except for communications expressly permitted in this ITP or through the process identified above. The foregoing restriction shall not, however, preclude or restrict communications regarding matters unrelated to the Project or from participating in public meetings or any public or Proposer workshop related to the Project. GDOT may, in its sole discretion, disqualify any Proposer engaging in such prohibited communications.

(e) Any contact by a Proposer determined by GDOT to be improper may result in disqualification of Proposer.

(f) Written communications regarding the Project will be disseminated from GDOT on GDOT letterhead. The Authorized Representative will sign such communications. Alternatively, the Authorized Representative may communicate via email originating from GDOT's server.

(g) GDOT will not be responsible for or bound by (1) any oral communication or (2) any other information or contact that occurs outside the official communication process specified herein, unless confirmed in writing by the Authorized Representative.

2.2.3 Language and United States Dollar Requirements

All correspondence regarding the RFP, the Proposal, the DB Documents and all other matters pertaining to this procurement is to be in the English language. If any original documents required for the Proposal are in any other language, Proposer shall provide

a certified English translation, which shall take precedence in the event of conflict with the original language. Proposer shall exclusively use United States dollars in its Proposal, except in pre-printed or reference materials. Unless otherwise specified, all references to monetary values shall be in United States dollars. In the evaluation of Proposals, GDOT may choose to disregard any financial figures provided by Proposer in denominations other than United States dollars.

2.3 Questions and Responses Regarding the RFP

Proposers shall be responsible for reviewing the RFP and any Addenda issued by GDOT prior to the Proposal Due Date, and for requesting written clarification or interpretation of any perceived discrepancy, deficiency, ambiguity, error or omission contained therein, or of any provision which Proposer fails to understand. Proposers shall submit, and GDOT will respond to, such requests in accordance with this Section 2.3. Any responses to these requests will not be considered part of the DB Documents.

2.3.1 Form of Requests

Proposers shall deliver any requests to the Authorized Representative via e-mail. GDOT will only consider requests made by Proposers' designated representatives and will not consider telephone or other oral requests. Proposers are responsible for ensuring that requests clearly indicate on the first page or in the subject line, as applicable, that the material relates to the Project. Requests must include the requestor's name, address, telephone and email address, and Proposer he/she represents. If a question has more than one subpart, each subpart will be considered a separate question. Corrections of typographical errors, incorrect cross references or inconsistencies within or among the RFP documents will be excluded from the above numerical limitations.

2.3.2 Timing of Requests

Proposers must submit any requests under this Section 2.3 prior to the deadline for such requests in Section 1.4. GDOT is not required to answer any questions submitted by Proposers after this deadline.

2.3.3 Responses and Confidential Information

GDOT's responses to questions submitted under this Section 2.3 will be in writing and GDOT will post these responses on the Sharepoint Site to all Proposers. GDOT may rephrase or consolidate questions as it deems appropriate.

2.4 Addenda

GDOT reserves the right, in its sole discretion, to revise, modify or change the RFP and/or procurement process at any time before the Proposal Due Date. Any such revisions will be implemented through issuance of Addenda to the RFP. Addenda will

be posted on the electronic bidding website. If any Addendum significantly impacts the RFP, as determined in GDOT's sole discretion, GDOT may change the RFP schedule, including the Proposal Due Date. The announcement of such new schedule will be included in the Addendum. In addition, the Addendum will indicate the latest date for submittal of any clarification requests concerning the Addendum.

GDOT will not be bound by, and Proposer shall not rely on, any oral communication or representation regarding the RFP documents, or any written communication except to the extent that it is contained in the RFP or in an Addendum to the RFP and is not superseded by a later Addendum to the RFP.

2.5 Reserved

2.6 Examination of the Request for Proposals Package and Project Site

GDOT shall permit Proposers to access the Project Site within the Existing Right of Way to perform limited investigations. Proposers must notify the GDOT Area Office prior to entering the Project Site and must follow all applicable state laws including erosion control and traffic control. Proposers are expected to carefully examine the Project Site and the complete RFP package before submitting a Proposal.

Each Proposer shall, by submission of a Proposal, be deemed to have made such examination and to have satisfied itself as to the conditions to be encountered in performing the Work under the DB Documents.

2.7 Changes to Proposer's Organization

Proposers are advised that, in order for a Proposer to remain qualified to submit a Proposal, a Proposer's organization as identified in the SOQ must remain intact for the duration of the procurement process, unless otherwise approved in writing by GDOT. This restriction applies to any changes in the following:

(a) the Participating Members and Major-Non-Participating Members of Proposer;

(b) the lead individual from each Participating Member and Major Non-Participating Member;

(c) the project manager for the Lead Contractor;

(d) the superintendent for the Lead Contractor;

(e) the lead design engineer for the Lead Engineering Firm; and

(f) any other key members of Proposer's management team or other individuals that Proposer identified in its SOQ.

If a Proposer wishes to change the organization represented in its SOQ by adding, removing, or substituting any of the individuals listed above, by changing the role of one of these individuals, by changing or adding a Participating Member or Major Non-Participating Member to Proposer team, or by changing the level of participation of one or more Participating Members of its team, Proposer must submit to the Authorized Representative a written request to change its organization no later than the date specified in Section 1.4. If a request is made to allow an addition to the team, including a new Participating Member or Major Non-Participating Member, Proposer shall submit with its request the information required by the RFQ for the position the proposed individual will fill. If a request is made to allow deletion of one of the individuals listed above, Proposer shall submit such information as GDOT may require to demonstrate that the changed Proposer team is equal to or better than the team shortlisted by GDOT during the RFQ phase of this procurement.

GDOT shall have sole discretion to grant or withhold approval of any requested change and to waive the requirement that Proposer submit such change no later than the date specified in Section 1.4.

SECTION 3.0 RESERVED

SECTION 4.0 PROPOSAL CONTENT AND SUBMITTAL REQUIREMENTS

4.1 Format

To facilitate the evaluation of Administrative and Technical Proposals and to help protect the confidentiality of proprietary information, Proposal shall be submitted as described below and shall be submitted in two (2) separate sealed packages.

Unless otherwise specified in this ITP, all written submittals must be prepared on 8-1/2" x 11" white paper. All written submittals, regardless of paper size, must be prepared on white paper and included in the applicable binder. Each section within each volume shall have sequentially numbered pages, shall be separated by a divider with a tab, and shall be prepared using no smaller than twelve-point font size, except for tables, which may be prepared using ten-point font size. Some of the required documents have specified page limitations, as set forth in Exhibit B, Exhibit C and Exhibit D. GDOT may disregard documents not complying with these page limitations. Pages may be printed on two sides, in which event each side shall be considered one page. Printed lines may be single-spaced. Proposers shall not include standard corporate brochures, awards, licenses and marketing materials and GDOT will not evaluate such materials.

4.2 Contents and Organization

Proposers shall clearly index their Administrative and Technical Proposals using pages with tabs and organize them in the order set forth in this Section 4.2. The Proposal shall contain separately bound and labeled Administrative and Technical Proposals, each in a separate loose-leaf three ring binder, including the information described in this

Section. Proposers may subdivide each Administrative and Technical Proposals as needed. The electronic submittals (CDs, DVDs, and/or USB flash drives) shall follow equivalent organizational standards, and shall use a searchable format with appropriate bookmarks.

The first page of each Administrative and Technical Proposal shall be a page executed by the Proposer that sets forth the specific items Proposer deems confidential, trade secret or proprietary information protected from public disclosure under the Open Government Laws. Each entry shall list the specific statute within the Open Government Laws that Proposer has reasonably determined is exempt from disclosure under Section 50-18-72 of the Code or any other applicable law. The list required under this Section 4.2 is intended to provide input to GDOT as to the confidential nature of a Proposer's Proposal, but in no event shall such list be binding on GDOT or determinative of any issue relating to confidentiality. Blanket designations that do not identify the specific information shall not be acceptable and may be cause for GDOT to treat the entire Proposal as public information. In no event shall the State, GDOT or any of their respective agents, representatives, consultants, directors, officers or employees be liable to a Proposer or Proposer team member for the disclosure of all or a portion of a Proposal submitted under this RFP.

If GDOT receives a request for public disclosure of all or any portion of the materials identified as confidential and included in any part of a Proposal, GDOT will promptly notify the applicable Proposer of the request. Proposer may seek a protective order or other appropriate remedy at such Proposer's sole cost and expense. If GDOT determines in good faith that the materials identified as "confidential" are not exempt from the Open Government Laws, GDOT will release the requested information. GDOT shall make the final determination regarding whether the requested information is to be disclosed or withheld.

Nothing contained in this provision shall modify or amend requirements and obligations imposed on GDOT by the Open Government Laws or other applicable law, and the provisions of the Open Government Laws or other laws shall control in the event of a conflict between the procedures described above and the applicable law.

Please see Exhibit B, Exhibit C, and Exhibit D for special instructions regarding submission of information relating to the Price Proposal.

4.2.1 Administrative Information

The Administrative Proposal will contain the components described in Exhibit B, separated and labeled appropriately and organized.

4.2.2 Technical Proposal

The Technical Proposal will contain the components described in Exhibit C, separated and labeled appropriately and organized.

The Technical Proposal shall be consistent with the requirements in the DB Documents. In drafting the Technical Proposal, Proposers shall use the versions of any manuals, guidelines or specifications, including but not limited to those identified in Volume 3 of the Technical Provisions, in effect at the date of the RFP advertisement.

4.3 Submission of Proposals

Proposers shall submit the following to GDOT:

(a) One (1) original of each of the Administrative Proposal and the Technical Proposal (each proposal marked "ORIGINAL");

(b) Five (5) copies of the Technical Proposal;

(c) One (1) copy of the Administrative Proposal;

(d) One (1) electronic copy of the Administrative, and Technical Proposals in "PDF";

(e) Electronic copy of the DB schedule as described in Exhibit C of the ITP.

Proposers shall submit and individually label all packages making up its Proposal as follows:

Proposal for the FY 17 Bridge Replacement Project
Re: Administrative Information; Technical Proposal

Proposals shall be delivered no later than 11:00 a.m. EST/EDT on the Proposal Due Date (as specified in Section 1.4) to:

Georgia Department of Transportation
One Georgia Center
11th Floor
600 West Peachtree Street, NW
Atlanta, Georgia 30308
Attn: Rich Williams

Acknowledgment of receipt of Proposals will be evidenced by the issuance of a receipt by a member of GDOT staff. GDOT will not accept Proposals submitted via facsimile.

GDOT will not accept any Proposals delivered after the due date and time as specified in Section 1.4. Any Proposals received after the specified time on the Proposal Due Date will be rejected and not considered. Proposers are solely responsible for assuring that GDOT receives their Proposals by the specified time on the Proposal Due Date at the address listed above. GDOT shall not be responsible for delays in delivery caused by weather, difficulties experienced by couriers or delivery services, delays due to security check-in process, misrouting of packages by courier or delivery services,

improper, incorrect or incomplete addressing of deliveries and other occurrences beyond the control of GDOT.

4.4 Disclosure of Proposals

No Proposal shall be made public until the procurement phase of the Project, including any evaluation, negotiations and award, has been completed.

4.5 Validity of Proposals

Proposals submitted and not withdrawn as of the Proposal Due Date shall be valid for a period of fifty (50) days commencing on the Proposal Due Date. No Proposer shall withdraw its Proposal within the fifty (50) day period, unless notified by GDOT that (i) the DB Documents for the Project will not be awarded by GDOT pursuant to the RFP or (ii) GDOT has awarded the DB Documents to another Proposer, has received the executed DB Documents and other required documents, and does not intend to award the DB Documents to Proposer that is requesting the withdrawal of the submitted Proposal.

Any Proposer may elect, in its sole discretion, to extend the validity of its Proposal beyond the time periods set forth above.

4.6 Proposal Guaranty

Each Proposer shall submit a Proposal Guaranty and Power of Attorney, as described in GDOT Special Provision 102.06.

4.7 Forfeiture of Proposal Guaranty

Each Proposer understands and agrees that if it has submitted and not withdrawn its Proposal as of the Proposal Due Date and (i) withdraws any part or all of its Proposal (without the Consent of GDOT) while the Proposal is valid or (ii) if it is selected as the apparent Successful Proposer pursuant to Section 6.2 or Section 6.2.2, should otherwise refuse or be unable to furnish any commitments made in its Proposal, GDOT shall be entitled to draw on the Proposal Guaranty in its entirety and Proposer shall not be entitled to the Payment for Work Product.

Proposer acknowledges that the forfeiture of the Proposal Guaranty constitutes liquidated damages and is not a penalty, and the amount forfeited is fair and reasonable and such payment represents a reasonable estimate of fair compensation to GDOT for the work required to procure the Project and the reputational losses which may accrue.

GDOT will retain the Proposal Guaranty for all Proposers until the DB Documents have been fully executed, GDOT has canceled the RFP or the conclusion of the validity period described in Section 4.5; after which GDOT will return the Proposal Guaranty for each Unsuccessful Proposer, except any Proposal Guaranty drawn upon by GDOT. Further, GDOT shall return the Proposer Guaranty to the successful Proposer within

two (2) Business Days of GDOT's receipt of the Payment and Performance Bonds, in accordance with Section 5.6.

Proposer understands that any material alteration, as determined by GDOT in its sole discretion, of documents specified in this Section 4, the Form of Proposal Guaranty, will render the Proposal non-responsive and non-compliant, unless such alteration was authorized by GDOT in writing prior to the Proposal Due Date.

4.8 Cost of Preparing Proposal

The cost of preparing the Proposal and any costs incurred at any time before or during the Proposal process shall be borne by Proposer.

4.9 Compliant Proposal

Proposer shall submit a Proposal that provides all the information required by the ITP. If the Proposal does not fully comply with these requirements, GDOT may deem the Proposal non-responsive in which case Proposer shall be disqualified. In addition, GDOT may consider Proposals non-responsive and Proposer disqualified for the following reasons:

(a) If the Proposal is not submitted in the format specified in this ITP, is illegible or is incomplete;

(b) If the Proposal contains multiple, conditional or alternate Proposals or contains any omission, erasures, alterations, unauthorized additions or other irregularities of any kind; or

(c) If Proposer is in arrears in the payment of any obligation due and owing the State, including the payment of taxes and employee benefits.

4.10 Insurance Requirements

Proposers are cautioned to carefully review the minimum insurance requirements set forth in the DB Documents and to take these minimum requirements into account in putting together their Technical Proposal and Price Proposal.

SECTION 5.0 EVALUATION PROCESS AND CRITERIA

Upon GDOT's receipt of the Proposals, GDOT will proceed to review the Proposals using the pass/fail factors set forth in Section 5.1. As set forth in Section 5.4, the evaluation process may, at GDOT's sole discretion, include a request for revised Proposals. GDOT will determine which Proposal is the Apparent Successful Proposer in accordance with the selection process set forth in this Section 5.

GDOT may, in its sole discretion, reject all Proposals or advertise for new Proposals, if, in the judgment of GDOT, the best interests of the public will be promoted by doing so.

5.1 Pass/Fail and Responsiveness Evaluation

Each Proposal will be reviewed (a) for responsiveness and (b) based on the pass/fail criteria set forth in this Section 5.1. Each Proposer must satisfy each pass/fail requirement set forth in Sections 5.1.2 through 5.1.3 and be deemed to have submitted a responsive Proposal pursuant to Section 5.1.1 in order for GDOT to consider the Proposal responsive. Proposers are advised that failure to achieve a "pass" rating on any "pass/fail" factor will result in GDOT declaring the Proposal non-responsive and Proposer being disqualified. Prior to making such determination, GDOT may, in its sole discretion, request clarifications of the information submitted in the Proposal (*see* Section 5.3).

5.1.1 Responsiveness

Each Proposal will be reviewed for conformance and responsiveness to the requirements set forth in the RFP. Proposers that GDOT determines are non-responsive to the RFP may be excluded from further consideration. Proposers will be advised regarding a determination of non-responsiveness.

5.1.2 Administrative Pass/Fail Requirements

The Administrative Proposal will be reviewed for conformance on a pass/fail basis to determine if it meets the requirements of Exhibit B.

5.1.3 Technical Proposal Pass/Fail Requirements

The Technical Proposal will be reviewed for conformance on a pass/fail basis to determine if it meets the requirements of Exhibit C.

5.2 Price Evaluation

The Proposer submitting the Lowest Qualified Price Proposal shall be the Apparent Successful Proposer.

5.3 Requests for Clarification

GDOT may at any time issue one or more Requests for Clarification (RFC) to the individual Proposers, requesting additional information or clarification from a Proposer, or may request a Proposer to verify or certify certain aspects of its Proposal. Any requests for clarification shall be in writing to Proposer's designated representative. Proposers shall respond to any such requests within two (2) Business Days (or such other time as is specified by GDOT) from receipt of the request. The scope, length and topics to be addressed in clarifications shall be prescribed by, and subject to the discretion of, GDOT.

Upon receipt of requested clarifications and additional information as described above, if any, the Proposals may be re-evaluated to factor in the clarifications and additional information.

5.4 Request for Proposal Revisions

GDOT may, at any time after receipt of Proposals and prior to final award, determine that it is appropriate to request changes to the Proposals ("Proposal Revisions"). If Proposal Revisions are requested, GDOT will follow the requirements described in 23 CFR Part 636. GDOT may request Proposal Revisions with or without discussions as described therein. The request for Proposal Revisions will identify any revisions to the RFP and will specify terms and conditions applicable to the Proposal Revisions, including identifying a time and date for delivery. In the event that Proposal Revisions are requested, the term "Proposal," as used in the RFP, shall mean the original Proposal, as modified by the Proposal Revisions.

5.5 Proposal Re-evaluation following Revisions

Upon receipt of Proposal Revisions pursuant to Section 5.4 above, GDOT will re-evaluate the Proposals as revised in accordance with the methodology described in Section 5.1.

5.6 Payment and Performance Bonding Requirements

On the Effective Date of DB Agreement, Proposer shall, at its option, cause Design-Build Team to deliver to GDOT P&P Bonds in compliance with GDOT Specification 103.05.

SECTION 6.0 AGREEMENT AWARD AND EXECUTION

6.1 No Obligation to Award

GDOT shall be under no obligation to award the DB Documents to any Proposer or to award the DB Documents at all.

6.2 Award and Execution

Unless GDOT rejects all Proposals or cancels this procurement, GDOT shall select as the Apparent Successful Proposer the Proposer with the Apparent Successful Proposal, taking into consideration the evaluation criteria and procedures set forth in Section 5. GDOT's selection of Apparent Successful Proposer with respect to the DB Documents shall be deemed to have occurred upon public notification of such selection.

Following such selection of Apparent Successful Proposer, GDOT and the Apparent Successful Proposer shall finalize the executable versions of the DB Documents, filling in blanks and inserting information that the forms of the DB Documents indicate is required from the Proposal. By submitting its Proposal, each Proposer commits to enter

into the form of DB Documents included in the RFP, without variation, except as provided in this paragraph.

6.2.1 Delivery of Drafts, Execution of DB Documents, Etc.

Within twenty (20) days of GDOT's selection of the Apparent Successful Proposer, except that such Apparent Successful Proposer may satisfy the provisions in subsection (a) by delivering specimens of the Insurance Policies no later than ten (10) days prior to execution of the DB Documents, the Apparent Successful Proposer shall:

(a) deliver to GDOT specimens of the Insurance Policies required under the DB Agreement for GDOT's review and approval; and

(b) if the Successful Proposer is a Joint Venture or Partnership, identify the attorney or law firm that will provide the legal opinions set forth on Form S hereto to be delivered concurrently with GDOT's execution of the DB Agreement and provide a draft opinion letter (consistent with such on Form S) to GDOT for GDOT' s approval, not to be unreasonably withheld. Such opinion letter may be rendered by in-house or outside counsel, provided that (i) the organization/authorization/execution opinion shall be provided by an attorney licensed in the state of the formation/organization of the entity for which the opinion is rendered (i.e., DB Team, joint venture member, etc.) and (ii) the qualification to do business in Georgia and the enforceability opinion shall be provided by an attorney licensed in the state of Georgia, provided, however, that the organization/authorization/execution opinion for an entity formed or organized under the laws of the state of Delaware may be issued by an in-house or outside counsel not licensed in Delaware.

(c) Notify GDOT in writing of the name and address of its agent for service of legal process for this Project. Proposer shall not change this authorized agent without prior written notice to GDOT;

(d) If applicable, complete the establishment of the single purpose entity for the Project and submit certified copies of the single purpose entity-related documents to GDOT as described in Section 1.11.4;

(e) Notify GDOT in writing of Proposer's Federal Internal Revenue Service Employer Identification Number;

(f) Deliver to GDOT six (6) executed sets of the DB Agreement, together with evidence as to the authority, power, and capacity of the individuals executing the DB Documents to bind Proposer to the DB Documents;

(g) Deliver to GDOT P&P Bonds meeting the requirements of GDOT Specification 103.05.

(h) Deliver to GDOT evidence of insurance required to be provided by DB Team under the DB Documents;

Should the Apparent Successful Proposer fail to comply with any of the requirements in this Section 6.2.1, GDOT shall call upon the Apparent Successful Proposer's Proposal Guaranty in its entirety, *provided* that Proposer's time period to satisfy the requirements of this Section 6.2.1 shall be extended by the period of delay in Proposer's ability to execute the DB Agreement solely and directly caused by the issuance of a temporary restraining order or other form of injunction by a court with jurisdiction that prohibits prosecution of any portion of the Project.

Proposer acknowledges that the forfeiture of the Proposal Guaranty constitutes liquidated damages and is not a penalty, and the amount forfeited is fair and reasonable and such payment represents a reasonable estimate of fair compensation to GDOT for the work required to procure the Project and the reputational losses which may accrue.

It is contemplated that GDOT will execute the DB Agreement no later than thirty (30) days after selection of the Apparent Successful Proposer, subject to such apparent Successful Proposer's compliance with the terms of this Section 6.2.1. GDOT will retain four (4) sets of the executed DB Documents, GDOT will deliver one executed set to FHWA (for Projects of Division Interest only), and GDOT will deliver one (1) executed set to Proposer. Concurrently with GDOT's execution of the DB Agreement, the Design-Build Team will provide to GDOT the legal opinion in the form, and from the counsel, previously approved by GDOT. Each of the DB Documents will not be effective until it has been fully executed by all of the parties thereto.

6.2.2 Initial Successful Proposer's Failure to Comply

If the initial Successful Proposer fails to comply with the requirements of Section 6.2.1, GDOT may (in its sole discretion) award the DB Documents to the Proposer whose Proposal was the next best Apparent Successful Proposer, re-advertise and complete the Work under a different contract, cancel the Project or pursue any other option it chooses.

6.3 Reserved

6.4 Debriefing of Unsuccessful Proposers

GDOT shall debrief Unsuccessful Proposers upon their written request submitted to the Point of Contact no later than thirty (30) calendar days after GDOT's issuance of Notice to Proceed (NTP) 1 for the Project. Written requests for debriefing must be submitted within thirty (30) calendar days of the GDOT Design-Build Project award announcement. Email requests are considered acceptable.

GDOT will prepare a summary of the requesting Proposer's relevant evaluation information. GDOT will provide the information in writing to the requesting Proposer within thirty (30) calendar days after GDOT issuance of the Project's NTP 1.

6.5 Bid Protest Procedures

Each DB Team, by submitting its Proposal, expressly recognizes the limitation on its rights to protest contained herein, expressly waives all other rights and remedies, and agrees that the decision on any protest, as provided herein, will be final and conclusive. These provisions are included in the RFP expressly in consideration for such waiver and agreement by the DB Team. If a DB Team disregards, disputes, or does not follow the exclusive protest remedies set forth in the RFP, it shall indemnify, defend, and hold GDOT, other agencies and their respective directors, officers, officials, employees, agents, representatives, advisors and consultants harmless from and against all liabilities, expenses, costs (including attorneys' fees and costs), fees, and damages incurred or suffered as a result of such DB Team's actions. The submission of a Proposal by the DB Team shall be deemed DB Team's irrevocable and unconditional agreement with such indemnification obligation.

Notwithstanding the existence of a protest, GDOT may, in its sole discretion, continue the procurement process or any portion thereof.

If a DB Team elects to protest the bid for this project, as permitted, the DB Team shall submit to the GDOT in writing, signed by a company officer authorized to sign contracts on behalf of the DB Team within the filing period.

At a minimum, the protest must include the following:

1. The name and address of the DB Team protestor;
2. Appropriate identification of the solicitation/sole source notice;
3. A statement of reasons for the protest;
4. Supporting exhibits, evidence or documents to substantiate any claims unless not available within the filing time (in which case the DB Team must proceed to file the protest within the filing period, but state the expected availability of the material supporting its claim); and
5. The desired remedy.

The DB Team is required to identify all grounds for protest during the protest filing period. The GDOT, at its discretion, may deem issues not raised in the protest filing period as voluntarily relinquished by the protesting DB Team. After the protest filing period expires, any grounds for protest voluntarily relinquished by the protesting DB Team may not be introduced by the protesting DB Team at any time during the protest process or any subsequent litigation.

The DB Team shall label all packages comprising its bid protest as follows:

Bid Protest for the FY 17 Bridge Replacement Project

Bid Protests shall be delivered no later than sixty (60) calendar days from Project letting at 11:00 a.m. EST to:

Georgia Department of Transportation
One Georgia Center
11th Floor
600 West Peachtree Street, NW
Atlanta, Georgia 30308
Attn: Rich Williams

SECTION 7.0 NON-RESPONSESIVE TECHNICAL PROPOSAL PROCEDURES

7.1 GDOT's Responsibilities

In the event GDOT deems a Proposer's Technical Proposal non-responsive, GDOT shall, within two (2) Business Days of such determination, provide each non-responsive Proposer a written explanation as to the reason(s) that their Technical Proposal was deemed non-responsive. An email is considered a proper written notification.

7.2 Proposer's Responsibilities

Upon receipt of GDOT's written explanation, the Proposer shall have five (5) Business Days to request GDOT reconsider the non-responsiveness determination. The Proposer's request shall be in writing to the Chief Engineer; shall clearly state the reasons the Proposer believes that GDOT's determination is in error; and shall include supporting documentation as the Proposer deems appropriate.

7.3 Technical Proposal Resolution

Upon GDOT's receipt of a Proposer's written request for reconsideration of the non-responsiveness determination, GDOT will respond in writing with a final determination or an estimate of when a final determination will be made within three (3) Business Days.

7.4 Time Frames

The time frames included are approximate, and may be modified by GDOT.

7.5 Costs and Damages

All costs of a Proposer for requests for GDOT to reconsider the non-responsiveness determination shall be the responsibility of the Proposer and shall be undertaken at the Proposer's expense.

SECTION 8.0 GDOT'S RIGHTS AND DISCLAIMERS

8.1 GDOT's Rights

In connection with this procurement, GDOT reserves to itself all rights (which rights shall be exercisable by GDOT in its sole discretion) available to it under applicable law, including without limitation, with or without cause and with or without notice, the right to:

(a) Develop the Project in any manner that it, in its sole discretion, deems necessary. If GDOT does not execute the DB Agreement with Proposer that submitted the Apparent Successful Proposal, GDOT may proceed to the next highest rated Proposer, terminate this procurement and pursue other development or solicitations relating to the Project, or exercise such other rights under the provisions of State law as it deems appropriate;

(b) Investigate the qualifications of any Proposer under consideration, require confirmation of information furnished by a Proposer, require additional information concerning a Proposer's Proposal, require additional evidence of qualifications to perform the Work, and seek or obtain data from any source that has the potential to improve the understanding and evaluation of the Proposals;

(c) Reject all Proposals;

(d) Reject any Proposals received for non-responsiveness to or non-compliance with the RFP requirements;

(e) Issue a new RFP;

(f) Cancel, modify, or withdraw the RFP in whole or in part at any time prior to the execution of the DB Documents, including adding or deleting Proposer responsibilities contained in the RFP;

(g) Modify all dates set or projected in the RFP, including this ITP;

(h) Issue Addenda;

(i) Disqualify any Proposer who changes its Proposal, members of its team or Key Personnel without GDOT approval;

(j) Appoint evaluation committees to review Proposals and seek the assistance of outside technical experts and consultants in evaluating the Proposals;

(k) Accept and review non-conforming Proposals or seek and receive clarifications or supplements to a Proposal;

(l) Waive minor irregularities in Proposals. Minor irregularities are defined as those that will not have an adverse effect on GDOT's interest and will not give a Proposer an advantage or benefit not enjoyed by other Proposers;

(m) Suspend and terminate the procurement at any time; and/or

(n) Exercise any other right reserved or afforded to GDOT under this ITP and applicable law.

8.2 Disclaimers

The RFP does not commit GDOT to enter into a DB Agreement, nor does it obligate GDOT to pay for any costs incurred in preparation and submission of Proposal(s) or in anticipation of the DB Documents. By submitting a Proposal, a Proposer disclaims any right to be paid for such costs, except for payments related to the Payment for Work Product.

In no event shall GDOT be bound by, or be liable for, any obligations regarding the Work or the Project until such time (if at all) as the DB Documents have been executed, authorized and delivered.

In submitting a Proposal in response to the RFP, Proposer is specifically acknowledging these disclaimers.

EXHIBIT A

Definitions

Definitions for the ITP are included in the DBA Exhibit 1.

EXHIBIT B

ADMINISTRATIVE INFORMATION SUBMITTAL REQUIREMENTS

B.1 General Instructions

This Exhibit B describes the required information and submission format regarding Administrative Information Submittals. Proposers shall submit the administrative information required by this Exhibit B, separated and labeled appropriately. The Administrative Information Submittals shall be limited to the page limitations (if any) specified for that submittal.

B.2 Contents of the Administrative Information Submittals

Proposers are to provide all information set out in this Exhibit B.

The Administrative Information Submittals shall consist of the following major elements: Proposer information, certifications and documents (including required forms);

B.2.1. Reserved

B.2.2. Proposer Information, Certifications and Documents

B.2.2.1 Proposal Letter – Form A

The Proposal shall include the Proposal Letter (Form A). Proposer shall attach to the Proposal Letter evidence of authorization to execute and deliver the Proposal and the DB Agreement, shall identify its authorized representative(s) and shall include all necessary authorization documents (as requested in the Proposal Letter – Form A).

B.2.2.2 Design-Build Price Proposal – Electronic Bidding

The Proposer shall follow all instructions contained in Exhibit D.4 for submission of their Price Proposal.

B.2.2.3 Participating Members, Contractors and Key Personnel Commitment – Form G

The Proposal shall include a completed Form G confirming the identity, current availability and commitment to the Project of the Participating Members, Major Non-Participating Members and Key Personnel for the Major Non-Participating Members that were listed by Proposer in the SOQ, subsequently approved in writing by GDOT in accordance with the procedures set forth in this ITP.

B.2.2.4 Buy America

GDOT supports the federal “Buy America” requirements and encourages, but does not require the use of “Buy America” on the Project.

B.2.2.5 Reserved

B.2.2.6 Reserved

B.2.2.7 Changes in Proposer's Organization

The Proposal shall include a copy of the letter(s) (if any) issued by GDOT approving changes to the composition of Proposer's team (including additions to a Proposer team) following GDOT's decision to qualify Proposer. Such approval is required under Section 2.7 of the ITP. If Proposer includes any such letter(s), it shall also include a brief description (two page maximum) of these changes.

B.2.2.8 Draft Single Purpose Entity Corporate Formation Documents

If Proposer contemplates the creation of one or more single purpose entities as the party to execute the DB Contracts, the Proposal shall include a statement acknowledging that the organizational documents for the single purpose entity(ies) will be provided within 60 days of GDOT's award pursuant to Section 6.2.1 of the ITP and the Proposal shall include applicable draft documents for such entity.

B.2.2.9 Executed Copy of Partnering/Consortium Agreement

If Proposer is a consortium, partnership or any other form of joint venture, the Proposal shall contain an executed teaming agreement or, if the entities making up Proposer have not executed a teaming agreement, a summary of the key terms of the anticipated agreement.

B.2.2.10 Reserved

B.2.2.11 Request for Eligibility to Bid

The Proposal shall include an executed copy of the Proposer's Eligibility to Bid on the Project.

B.2.3. Other Financial Capacity Information (For Single Purpose Entities or Joint Ventures Only)

(a) **Newly Formed Entity** - If the Proposer is a newly formed entity and does not have independent financial statements, then financial statements for the Participating Members and Major Non-Participating Members (if any) and, if applicable, any joint ventures making up the Major Non-Participating Members, shall be sufficient (and the Proposer shall expressly state that the Proposer is a newly formed entity and does not have independent financial statements – but shall nonetheless provide sufficient background information on such entity – i.e., organizational, legal, ownership structure, initial funding, purpose, etc.).

(b) **SEC Filings** - If any other entity for whom financial information is submitted hereby files reports with the Securities and Exchange Commission, then such reports shall be provided through a copy of their annual report on Form 10-K. Also, for all subsequent quarters, provide a copy of any report filed on Form 10-Q or Form 8-K which has been filed since the latest filed 10-K. If any of these

reports have previously been submitted to GDOT during the procurement process, they are not required to be resubmitted.

(c) **Material Changes in Financial Condition -** A letter from the chief financial officer ("CFO") or treasurer of Proposer, each Participating Members, each Major Non-Participating Members (if any), each joint venture making up the Major Non-Participating Members (if applicable) and each Guarantor, in each case providing information on any material changes in financial condition of such entity and, if applicable, its direct or indirect parent entities, since submission of the SOQs and those that are pending. Additionally, Proposers shall be required to provide updated financial information following the Proposal Due Date as long as the dissemination of such information is permitted by law.

At the discretion of GDOT, any failure to disclose a prior or pending material change may result in disqualification from further participation in the selection process. In instances where a material change has occurred, or is anticipated, the affected entity shall provide a statement describing each material change in detail, the likelihood that the developments will continue during the period of performance of the project development, and the projected full extent of the changes likely to be experienced in the periods ahead. Estimates of the impact on revenues, expenses and the change in equity shall be provided separately for each material change as certified by the CFO or treasurer. References to the notes in the financial statements are not sufficient to address the requirement to discuss the impact of material changes. The affected entity shall also provide a discussion of measures that would be undertaken to insulate the project from any recent material adverse changes, and those currently in progress or reasonably anticipated in the future. If the financial statements indicate that expenses and losses exceed income in the periods between submission of the SOQs and the most recent completed periods (even if there has not been a material change), the affected entity shall provide a discussion of measures that will be undertaken to make the entity profitable in the future and an estimate of when the entity will be profitable.

The following list identifies certain items that GDOT would consider a material change in financial condition. **This list is intended to be indicative only.**

List of Indicative Material Changes:

- An event of default or bankruptcy involving the affected entity, a related business unit within the same corporation, or the parent corporation of the affected entity.

- A downward change in tangible net worth of ten percent (10%) of shareholder equity.

- A sale, merger or acquisition exceeding ten percent (10%) of the value of shareholder equity prior to the sale, merger or acquisition which in any way involves the affected entity, a related business unit, or parent corporation of the affected entity.

- A downward change in credit rating for the affected entity, a related business

unit, or parent corporation of the affected entity.

- Inability to meet conditions of loan or debt covenants by the affected entity, a related business unit or parent corporation of the affected entity which has required or will require a waiver or modification of agreed loan stipulations, or additional credit support from shareholders or other third parties.

- The affected entity, a related business unit in the same corporation, or the parent corporation of the affected entity either: (i) incurred a net operating loss; (ii) sustained charges exceeding 5% of the then shareholder equity due to claims, changes in accounting, write-offs or business restructuring; or (iii) implemented a restructuring/reduction in salaried personnel exceeding 200 positions or involving the disposition of assets exceeding 10% of the then shareholder equity.

- Other events known to the affected entity, a related business unit or parent corporation of the affected entity which represents a material change in financial condition since submission of the SOQs or may be pending for the next reporting period.

(d) **Letter of Parent Company Support -** Where a Participating Member or Major Non-Participating Member of a Proposer team is a subsidiary of another company, provide a letter from the parent company, signed by a parent company officer, confirming their intention to support the subsidiary's participation in the Project. This letter must clearly state that the parent company will provide the financial support and human resources needed by the subsidiary to successfully carry out the Project.

(e) **Off-Balance Sheet Liabilities** - A letter from the CFO, treasurer or certified public accountant for each entity for which financial information is submitted, identifying all material off balance sheet liabilities; and

(f) **Non-recourse financing -** A letter from the CFO, treasurer or certified public accountant for each entity for which financial information is submitted, identifying the amount of non-recourse financing on the balance sheet.

The information required under this Section shall be packaged separately for each separate entity with a cover sheet identifying the name of the organization and its role in Proposer's organization (i.e., Participating Member).

B.3 No DB Contract Sum Information

NO PART OF THE ADMINISTRATIVE INFORMATION SHOULD CONTAIN THE PROPOSER'S PROPOSED DB CONTRACT SUM OR OTHER INFORMATION THAT WOULD ALLOW SUCH DB CONTRACT SUM TO BE CALCULATED.

EXHIBIT C

TECHNICAL PROPOSAL SUBMITTAL REQUIREMENTS

Proposer shall submit the Technical Proposal in accordance with this Exhibit C. The Technical Proposal shall be separated and labeled appropriately and organized. Proposers shall not amend the order or change the contents of the checklist except to provide the required cross reference to their respective Proposal. The Technical Proposal shall be limited to an aggregate of twenty (20) pages, including appendices and exhibits containing required forms, graphs, any matrices and pertinent data. Charts, graphs, figures and matrices may be submitted on 11"X17" sheets. Such 11"X17" sheets will be counted as one. Proposer may provide charts, graphs, figures and matrices in a legible format 11"X17" or larger to assist in GDOT's review. Schedules and design drawings will not be counted as part of the aggregate twenty (20) pages. Dividing sheets and tabs will not count toward the maximum page limit, provided they do not include any additional qualitative information for the proposal.

The Technical Proposal shall include the following:

C.1 Design Build Schedule / Construction Phasing Plan / Executive Summary

(a) The Design Build Schedule shall show the overall approach and provide high level activities to the design, execution of the Work for the period between NTP 1 and Final Acceptance. The Schedule shall indicate the milestone dates in Exhibit 9 of the DB Agreement and the Critical Path to achieve Substantial Completion and Final Acceptance. The DB Schedule shall also provide milestone activities for each bridge to include start of design, completion of design, start of detour / bridge construction, completion of detour / bridge construction, and substantial completion for each bridge on the contract.

(b) The Executive Summary shall contain sufficient information for reviewers with both technical and non-technical backgrounds to become familiar with Proposer's Proposal and its ability to satisfy the technical requirements of the Project. The Executive Summary shall not exceed two (2) pages of the twenty (20) pages and shall be in at least 12-point type.

The Executive Summary, at a minimum, shall provide a description on the approach to designing and constructing multiple bridges.

C.2 Project Differences from Reference Information Documents (RID) (if applicable)

(a) Proposal shall indicate how the approach to design and construction of the project differs materially from the design indicated in any of the RID.

EXHIBIT D

PRICE PROPOSAL SUBMITTAL REQUIREMENTS

Proposer shall submit the Price Proposal in accordance with this Exhibit D. The Price Proposal shall be separated and labeled appropriately and organized in accordance with the following requirements.

.

D.1 General Instructions

This Exhibit D describes the required information and submission format for the Price Proposal.

Proposer shall submit the information required by this Exhibit D in the format specified herein.

All Forms named herein are attached to the ITP. All blank spaces in the Proposal Forms must be filled in as appropriate. No substantive change shall be made in the Proposal Forms.

D.2 Format of Price Proposal

All financial information provided in the Price Proposal shall be in U.S. Dollar currency only and all amounts shall be clearly identified as nominal dollars.

D.3 Verification

Each Proposer shall satisfy itself as to the costs and tax consequences of entering into a DB Agreement. GDOT makes no representations or warranties, express or implied, and assumes no liability whatsoever, with respect to costs or the consequences of federal or state income tax treatment of DB team under the DB Agreement.

D.4 Electronic submittal of Price Proposal

Refer to GDOT Standard Specification 102.06 for instructions regarding submission of the Price Proposal.

EXHIBIT E

RESERVED

EXHIBIT F

RESERVED

EXHIBIT G

LIST OF GDOT PROJECT TEAM

- HNTB Corporation
- ARCADIS
- Michael Baker International
- Long Engineering
- Edwards Pittman Environmental, Inc.
- Southeastern Engineering, Inc.
- Pont Engineering
- Atkins Global
- New South Associates

EXHIBIT H

LIST OF REFERENCE INFORMATION DOCUMENTS

RID or RFP List Title	Proposed RID Documents	Date Issued
	Costing Plans	
	Bridge Hydraulic Analysis Memo and existing condition HEC_RAS model	
	Low Impact Bridge Program Checklist	
	Survey Database	
	Design Exception / Design Variance Report	
	Geotechnical Borings and Schematics	
	SUE QL-D	
	Utility Analysis Sheet	
	Environmental Studies (Air, Archaeology, Ecology, History)	
	Microstation files	
	Existing Bridge Information	
See GDOT's Secure SharePoint site.		

FORM A

Proposal Letter

PROPOSER: _____

Proposal Date: _____, 201_

Georgia Department of Transportation
One Georgia Center
600 West Peachtree Street, NW
Atlanta, Georgia 30308

The undersigned (**"Proposer"**) submits this proposal (this **"Proposal"**) in response to that certain Request for Proposals (the "**RFP**") issued by the Georgia Department of Transportation (**"GDOT"**), an agency of the State of Georgia, dated , as amended, to develop the FY 17 Bridge Replacement Project (the "**Project**"), as more specifically described herein and in the documents provided with the RFP. Initially capitalized terms not otherwise defined herein shall have the meanings set forth in the RFP.

In consideration for GDOT supplying us, at our request, with the RFP and agreeing to examine and consider this Proposal, the undersigned undertakes [jointly and severally] ***[if Proposer is a joint venture or association other than a corporation, limited liability company or a partnership, leave in the words "jointly and severally," otherwise delete]***:

a) to keep this Proposal open for acceptance for a period of fifty (50) days without unilaterally varying or amending its terms and without any member or partner withdrawing or any other change being made in the composition of the partnership/joint venture/limited liability company/consortium on whose behalf this Proposal is submitted, without first obtaining the prior written consent of GDOT, in GDOT's sole discretion; and

b) to provide security (including bonds and insurance) for the due performance of the Design Build Agreement (the **"DB Agreement"**) as stipulated therein.

If selected by GDOT, Proposer agrees to: (a) enter into the DB Agreement and satisfy all other conditions to award of the DB Agreement as set forth in Section 6 of the Instructions to Proposers (**"ITP"**) included in the RFP; and (b) perform its obligations as set forth in the DB Agreement, including compliance with all commitments contained in this Proposal.

Enclosed, and by this reference incorporated herein and made a part of this Proposal, are the following Proposal components:

- Administrative Information Submittals;
- Technical Proposal; and
- Price Proposal

Proposer acknowledges receipt, understanding and full consideration of the following:

- **[list any addenda to the RFP and sets of questions and answers by dates and numbers]**

Proposer certifies the following: the Proposal is submitted without reservation, qualification, assumptions or conditions; Proposer has carefully examined and is fully familiar with all of the RFP documents and is satisfied that the RFP documents provide sufficient detail regarding the intended "Design-Build Team's" obligations and do not contain internal inconsistencies; Proposer has carefully checked all the words, figures and statements in the Proposal; Proposer has conducted such other field investigations and additional design development as is prudent and reasonable in preparing this Proposal; Proposer has requested clarification or interpretation with respect to any perceived deficiency in or omission from the RFP documents or other documents provided by GDOT; and Proposer has notified GDOT of any unusual site conditions observed prior to the date hereof.

Proposer represents that all statements made in the Statement of Qualifications previously delivered to GDOT by Proposer are true, correct and accurate as of the date hereof, except as otherwise specified in the enclosed Proposal and Proposal forms. Proposer agrees that such Statement of Qualifications, except as modified by the enclosed Proposal and Proposal forms, is incorporated as if fully set forth herein.

Proposer understands that GDOT is not bound to award the DB Agreement to the Proposer submitting the Proposal with the lowest proposed bid, the highest scoring Proposal, or any Proposal GDOT may receive.

Except for any payment for Work Product paid to Proposer in accordance with the ITP and the separate Contractual Services Certification, Proposer further understands that all costs and expenses incurred by it in preparing this Proposal and participating in the RFP process will be borne solely by the Proposer.

Proposer agrees that GDOT will not be responsible for any errors, omissions, inaccuracies or incomplete statements in the Proposal.

The Proposal shall be governed by and construed in all respects according to the laws of the State of Georgia.

Proposer's business address:

_____

(No.) (Street) (Floor or Suite)

_____

(City) (State or Province) (ZIP or Postal Code) (Country)

State or Country of Incorporation/Formation/Organization: _____

[insert appropriate signature block from following pages]

1. Sample signature block for corporation or limited liability company:

[Insert the Proposer's name]

By: _____

Print Name: _____

Title: _____

2. Sample signature block for partnership or joint venture:

[Insert the Proposer's name]

By: *[Insert general partner's or member's name]*

By: _____

Print Name: _____

Title: _____

[Add signatures of additional general partners or members as appropriate]

3. Sample signature block for attorney in fact:

[Insert the Proposer's name]

By: _____

Print Name: _____
Attorney in Fact

ADDITIONAL REQUIREMENTS FOR SINGLE PURPOSE ENTITIES AND JOINT VENTURES ONLY:

A. If the Proposer is a corporation, enter the state or country of incorporation in addition to the business address. If the Proposer is a partnership, enter the state or country of formation. If the Proposer is a limited liability company, enter the state or country of organization.

B. Describe in detail the legal and organizational structures of the entity making the Proposal.

1. Provide a table or tables showing the legal and organizational structure of the anticipated Design-Build Team and any Major Non-Participating Members entity. This table shall describe the role of all Participating Members, Major Non-Participating Members, and Contractors.

2. If the Proposer (or any member, partner or joint venturer of the Proposer) is a corporation or includes a corporation as a joint venturer, partner or member, provide articles of incorporation and bylaws for the Proposer and each corporation certified by an appropriate individual.

3. If the Proposer (or any member, partner or joint venturer of the Proposer) is a partnership or includes a partnership as a joint venturer, partner or member, attach full names and addresses of all partners and the equity ownership interest of each entity, provide the incorporation, formation and organizational documentation for the Proposer and each general partner (partnership agreement and certificate of partnership for a partnership, articles of incorporation and bylaws for a corporation, operating agreement for a limited liability company and joint venture agreement for a joint venture) certified by an appropriate individual.

4. If the Proposer (or any member, partner or joint venturer of the Proposer) is a joint venture or includes a joint venture as a joint venturer, partner or member, attach the full names and addresses of all joint venturers and the equity ownership interest of each entity, provide the incorporation, formation and organizational documentation for the Proposer and each joint venturer (partnership agreement and certificate of partnership for a partnership, articles of incorporation and bylaws for a corporation, operating agreement for a limited liability company and joint venture agreement for a joint venture) certified by an appropriate individual.

5. If the Proposer (or any member, partner or joint venturer of the Proposer) is a limited liability company or includes a limited liability company as a joint venturer, partner or member, attach full names and addresses of all members and the equity ownership interest of each entity, provide the incorporation, formation and organizational documentation for the Proposer and each member (partnership agreement and certificate of partnership for a partnership, articles of incorporation and bylaws for a corporation, operating agreement for a limited liability company and joint venture) certified by an appropriate individual. Attach evidence to the Proposal and to each letter that the person signing has authority to do so.

C. With respect to authorization of execution and delivery of the Proposal and validity thereof, if the Proposer is a corporation, it shall provide evidence in the form of a

resolution of its governing body certified by an appropriate officer of the corporation. If the Proposer is a partnership, such evidence shall be in the form of a partnership resolution and a general partner resolution (as to each general partner) providing such authorization, in each case, certified by an appropriate officer of the general partner. If the Proposer is a limited liability company, such evidence shall be in the form of a limited liability company resolution and a managing member(s) resolution providing such authorization, certified by an appropriate officer of the managing member(s). If there is no managing member, each member shall provide the foregoing information. If the Proposer is a joint venture, such evidence shall be in the form of a resolution of each joint venturer, certified by an appropriate officer of such joint venturer. If the Proposer is a joint venture or a partnership, the Proposal must be executed by all joint venture members or all general partners, as applicable.

D. The Proposer's partnership agreement, limited liability company operating agreement, and joint venture agreement, as applicable, must include an express provision satisfactory to GDOT, in its sole discretion, stating that, in the event of a dispute between or among joint venturers, partners or members, as applicable, no joint venturer, partner or member, as applicable, shall be entitled to stop, hinder or delay work on the Project. Proposers shall submit the applicable agreement to GDOT and identify on a cover page where in the agreement the provision can be found.

FORM B

RESERVED

FORM C

RESERVED

FORM D

RESERVED

FORM E

RESERVED

FORM F

RESERVED

FORM G

Form of Participating Members, Major Non-Participating Member, Contractors and Key Personnel Commitment

Proposer's Name: _____ (the "Proposer")

Proposer hereby commits that, if awarded the FY 17 Bridge Replacement Project (the "**Project**"), the Proposer will use the entities and individuals listed below for their stated positions and that, to the extent within the Proposer's control, such entities and individuals will be available to fulfill their Project-related responsibilities.

Participating Member: _____

Participating Member: _____

Participating Member: _____

Lead Contractor: _____

- **Project Manager**: _____
- **Superintendent**: _____

Lead Engineering Firm: _____

- **Lead Design Engineer**: _____

Key Personnel: _____

_____

_____

Signed: _____

Printed Name: _____

Title: _____

Date: _____

FORM H

RESERVED

FORM I

DBE Certification

DISADVANTAGED BUSINESS ENTERPRISES REQUIREMENTS

The following overall statewide goal for participation by DBEs is established for professional services and construction work:

DBE

1.0% of the overall Project design and construction costs, with respect to the race conscious participation by the Design-Build Team.

DBE Certification

By signing below, the Proposer certifies that (1) Design-Build Team will provide a good faith effort to meet the goal; and (2) Design-Build Team will direct its efforts toward the utilization of DBE firms in both design and construction components of the Project, (3) DB Team will submit a DBE Commitments List meeting the requirements set forth in Attachment 6 to Exhibit 8 to the DB Agreement, (4) DB Team will submit monthly and annual summary reports of the DBE goal attainment on the Project, identifying the components of the Project on which DBE firms are/have been utilized See page 2 of this form for Commitments List requirements.

Failure to submit the DBE Commitments List will be considered a breach of the requirements of the RFP. As a result, the Proposal Bond provided by the Proposer will become property of GDOT and the Proposer will be precluded from participating in any reprocurement of the DB Agreement for the Project.

_____
[name]

_____
[title]

FORM J

RESERVED

FORM K

RESERVED

FORM L

RESERVED

FORM M

RESERVED

FORM N

RESERVED

FORM O

RESERVED

FORM P

RESERVED

FORM Q

RESERVED

FORM R

RESERVED

FORM S

Opinion of Counsel

[Letterhead of independent law firm or in-house counsel – See Section 6.2.1 of the ITP for legal counsel requirements- If applicable]

Mr. Matthew Cline
Georgia Department of Transportation
One Georgia Center
600 West Peachtree Street, NW
Atlanta, Georgia 30308

Re: Design-Build Agreement for the [Insert Project Name] Project (the "**Project**")

Dear Mr. Cline**,**

This letter is provided with regard to the Design-Build Agreement dated as of _____, 2017 (the "DB Agreement"), by and between the Georgia Department of Transportation (**"GDOT"**), an agency of the State of Georgia, and _____ (the "Design-Build Team") for the [Insert Project Name] Project (the "**Project**").

[Describe relationship to Design-Build Team and its joint venture members, general partners, members, as applicable, and any other entities whose approval is required in order to authorize execution of the DB Agreement.]

[This letter is provided to you pursuant to Section 6.2.1 of the Instructions to Proposers of that certain Request for Proposals issued by GDOT on [_____], 2017, as amended.]

In giving this opinion, we have examined _____. We have also considered such questions of law and we have examined such documents and instruments and certificates of public officials and individuals who participated in the procurement process as we have deemed necessary or advisable. *[if a certificate is used/obtained from Design-Build Team, such certificate shall also run in favor of GDOT, and shall be attached to the opinion]*

In giving this opinion, we have assumed that all items submitted to us or reviewed by us are genuine, accurate and complete, and if not originals, are true and correct copies of originals, and that all signatures on such items are genuine.

Subject to the foregoing, we are of the opinion that:

1. [opinion regarding organization/formation and existence of Design-Build Team and that Design-Build Team has corporate power to own its properties and assets, carry on its business, enter into the DB Agreement and to perform its obligations under the DB Agreement] *[if Design-Build Team is a partnership/joint venture, these opinions are also required for each of its joint venture members and general partners]*

2. [opinion regarding good standing and qualification to do business in the state of Georgia for Design-Build Team] [*if Design-Build Team is a partnership/joint venture, these opinions are also required for each of its joint venture members and general partners*]

3. [opinion that the DB Agreement have been duly authorized by all necessary corporate action on the part of Design-Build Team and the DB Agreement have been duly executed and delivered by Design-Build Team] *[if Design-Build Team is a partnership/joint venture, add: "and its joint venture members/general partners" after the first and second "Design-Build Team"]*

4. [opinion that the DB Agreement constitute a legal, valid and binding obligation of Design-Build Team enforceable against Design-Build Team in accordance with its terms] *[if Design-Build Team is a partnership/joint venture, add: "and its joint venture members/general partners" after the second "Design-Build Team"]*

5. [opinion that all required approvals have been obtained with respect to execution, delivery and performance of the DB Agreement; and that the DB Agreement do not conflict with any agreements to which Design-Build Team is a party *[if Design-Build Team is a partnership/joint venture, add: "and its joint venture members/general partners are a party"]* or with any orders, judgments or decrees by which Design-Build Team is bound *[if Design-Build Team is a partnership/joint venture, add: "and its joint venture members/general partners are bound"]*

6. [opinion that execution, delivery and performance of all obligations by Design-Build Team under the DB Agreement do not conflict with, and are authorized by, the articles of incorporation and bylaws of Design-Build Team *[if Design-Build Team is a partnership, replace "articles of incorporation and bylaws" with "partnership agreement and (if applicable) certificate of limited partnership"; if Design-Build Team is a joint venture, replace "articles of incorporation and bylaws" with "joint venture agreement"; if Design-Build Team is a limited liability company, replace "articles of incorporation and bylaws" with "operating agreement and certificate of formation"]*

7. [opinion that execution and delivery by Design-Build Team of the DB Agreement do not, and Design-Build Team's performance of its obligations under the DB Agreement will not, violate any current statute, rule or regulation applicable to Design-Build Team or to transactions of the type contemplated by the DB Agreement]

8. [opinion that the Design-Build Team Agreements (as applicable) have been duly authorized by all necessary corporate action on the part of Design-Build Team and such agreements have been duly executed and delivered by Design-Build Team] *[if Design-Build Team is a partnership/joint venture, add: "and its joint venture members/general partners" after the first and second "Design-Build Team"]*

9. [opinion that the Design-Build Team Agreements constitute legal, valid and binding obligations of Design-Build Team enforceable against Design-Build Team in accordance with their terms] *[if Design-Build Team is a partnership/joint venture, add: "and its joint venture members/general partners" after the second "Design-Build Team"*

FORM T

RESERVED

FORM U

RESERVED

FORM V

RESERVED

DESIGN-BUILD AGREEMENT
FOR
FY 17 BRIDGE REPLACEMENT PROJECT
PI No. 0015524

Between

Georgia Department of Transportation,

State of Georgia

and

_____,
a _____

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DESIGN-BUILD AGREEMENT FOR PROJECT

This Design and Build Agreement for the FY 17 Bridge Replacement Project (this "Agreement", or "DB Agreement" or the "DBA") is entered into and effective as of , 2017 by and between the Georgia Department of Transportation ("GDOT"), an agency of the State of Georgia, and _____, a _____ ("DB Team").

R E C I T A L S

A. Pursuant to Section 32-2-81, et seq. of the Official Code of Georgia Annotated (the "Code"), GDOT is authorized to "combine any or all of the environmental services, utility relocation services, right of way services, design services, and construction phases of a public road or other transportation purpose project into a single contract using a design-build procedure."

B. Pursuant to Section 32-2-81 of the Code, "the term 'design-build procedure' means a method of contracting under which the department contracts with another party for the party to both design and build the structures, facilities, systems, and other items specified in the contract." GDOT may use the design-build procedure for buildings, bridges and approaches, rail corridors, technology deployments, and limited or controlled access projects or projects that may be constructed within existing rights of way where the scope of work can be clearly defined or when a significant savings in project delivery time can be attained.

C. Pursuant to the provisions of the Code and Chapter 672-18 of the Rules of the State Department of Transportation (the "Rules"), GDOT issued a Request for Qualifications ("RFQ") on February 03, 2017, as amended, requesting submittals of a Statement of Qualifications ("SOQ") from respondents desiring to develop the FY 17 Bridge Replacement Project (the "Project") through a Design-Build Agreement.

D. GDOT received ( ) responsive SOQ by , 2017, and subsequently Shortlisted or qualified ( ) responsive Proposers.

E. On , 2017, GDOT issued to the shortlisted Proposers a Request for Proposals ("RFP") with respect to the Project.

F. On , 2017, GDOT received responses to the RFP, including the response of _____ on behalf of DB Team (the "Proposal").

G. As part of the RFP, GDOT required that Shortlisted Proposers commit to entering into a DB Agreement with GDOT for the design and construction of the Project.

H. An RFP Technical Review Committee comprised of GDOT staff determined the DB Team was the Proposer which best met the selection criteria contained in the RFP.

NOW, THEREFORE, in consideration of the Work to be performed by DB Team, and DB Team's obligations with respect thereto, the foregoing premises and the covenants and agreements set forth herein, the Parties hereby agree as follows:

Article 1 DEFINITIONS; DB DOCUMENTS; ORDER OF PRECEDENCE; PRINCIPAL PROJECT DOCUMENTS

1.1 Abbreviations and Definitions

Abbreviations and definitions for certain terms used in this Agreement and the other DB Documents are contained in Exhibit 1.

1.2 DB Documents; Order of Precedence

Each of the DB Documents is an essential part of the agreement between the Parties. The DB Documents are intended to be complementary and to be read together with this Agreement, as a complete agreement. Each of the DB Documents (other than this Agreement) is hereby expressly incorporated herein by reference.

1.2.1 Subject to Article 1.2.2, in the event of any conflict, ambiguity or inconsistency among the DB Documents, the order of precedence, from highest to lowest, shall be as follows:

1.2.1.1 Supplemental Agreements and Agreement amendments, and all exhibits, riders, and attachments thereto;

1.2.1.2 The Agreement (also referred to as Volume 1) and all exhibits thereto (other than Exhibit 2);

1.2.1.3 Volume 2 "Technical Provisions for DB Agreement" amendments, and all exhibits and attachments to such amendments;

1.2.1.4 Volume 2 "Technical Provisions for DB Agreement", and all exhibits and attachments to the Technical Provisions;

1.2.1.5 Volume 3 "Programmatic Technical Provisions for DB Agreement" amendments, and all exhibits and attachments to such amendments;

1.2.1.6 Volume 3 "Programmatic Technical Provisions for DB Agreement", and all exhibits and attachments thereto;

1.2.1.7 Volume 3 "Manuals (Technical Documents) amendments; provided that GDOT in its sole discretion may designate that such amendments or portions thereof take precedence over the Technical Provisions to the extent provided in Articles 7.2.5;

1.2.1.8 Volume 3 Manuals (Technical Documents);

1.2.1.9 Reserved

1.2.1.10 Reserved

1.2.2 If the DB Documents contain differing provisions on the same subject matter, the provisions that establish the higher quality manner or method of performing the Work or use more stringent standards will prevail. Additional details in a lower priority DB Document shall be given effect except to the extent they irreconcilably conflict with requirements, provisions and practices contained in the higher priority DB Document. If the DB Documents contain differing

provisions on the same subject matter that cannot be reconciled by applying the foregoing rules, then the provisions (whether setting forth performance or prescriptive requirements) contained in the document of higher order of precedence shall prevail over the provisions (whether setting forth performance or prescriptive requirements) contained in the document of lower order of precedence.

1.2.3 Where there is an irreconcilable conflict among any standards, criteria, requirements, conditions, procedures, specifications or other provisions applicable to the Project set forth in one or more manual(s) or publication(s) referenced within a DB Document or set of DB Documents with the same order of priority (including within documents referenced therein), the standard, criterion, requirement, condition, procedure, specification or other provision offering higher quality or better performance will apply, unless GDOT in its sole discretion accepts otherwise in writing. If there is an irreconcilable conflict between manuals or publications referenced in DB Document of differing priorities, the order of precedence set forth in Article 1.2.1 will apply. If either Party becomes aware of any such conflict, it shall promptly notify the other party of the conflict in writing. GDOT shall issue a written determination respecting which of the conflicting items is to apply promptly after it becomes aware of any such conflict.

1.3 Reserved

1.4 Reserved

1.5 Reference Information Documents

1.5.1 DB Team acknowledges that GDOT has provided and disclosed to DB Team the Reference Information Documents ("RID"). The RID are not mandatory or binding on DB Team. DB Team is not entitled to rely on the RID as presenting design, engineering, operating or maintenance solutions or other direction, means or methods for complying with the requirements of the DB Documents, Governmental Approvals or Law.

1.5.2 Except as expressly set forth herein, DB Team acknowledges that GDOT neither represents nor warrants that the information contained in the RID is complete or accurate or that such information is in conformity with the requirements of the DB Documents, Governmental Approvals or Laws, and GDOT is not responsible or liable in any respect for any causes of action, claims or Losses whatsoever suffered by any DB Team-Related Entity by reason of any use of information contained in, or any action or forbearance in reliance on, the RID.

Article 2 GRANT OF AUTHORITY AND RIGHT OF WAY

2.1 Grant of Authority for Undertaking

2.1.1 GDOT hereby grants to DB Team the revocable right, and DB Team accepts the obligation, to design and construct (including any maintenance obligations during such period as required pursuant to the DB Documents) the Project in accordance with the requirements of this Agreement and the other DB Documents.

2.2 Right of Way; Construction Easement; Ownership

2.2.1 The Project shall be constructed on and within the Existing Right of Way and Required Right of Way. GDOT shall be responsible to provide DB Team with access rights to

the Property, together with the Existing Right of Way and Proposed Right of Way as set forth below.

2.2.1.1 Upon the terms and conditions of this Agreement, including as set forth in this Article 2.2, and subject to the terms and conditions of the DB Documents, as of the date of the Agreement or such other date as shall be mutually agreed upon in writing by GDOT and DB Team (the "Effective Date"), GDOT shall and does, subject to and upon issuance of the written notice to DB Team authorizing DB Team to proceed with the portion of the Work described in Article 3.3.1.1 ("NTP 1"):

(a) Grant to DB Team a non-exclusive right of access, ingress and egress to all real property comprising the Existing Right of Way as more particularly described and designated in Exhibit 4, subject to the exclusions and reservations set forth in this Agreement, in accordance with the terms described in the DB Documents, and

(b) as and to the extent that GDOT, has acquired a right of access or interest in any property as described and designated in Exhibit 4, grant a non-exclusive right of access, ingress and egress to the real property described therein.

2.2.1.2 GDOT and DB Team acknowledge and agree that GDOT is and shall remain throughout the Term the sole owner of fee title to the Existing Right of Way.

2.2.1.3 GDOT has reserved the right to enter upon, possess, control and utilize the Existing Right of Way with or without payment of compensation to DB Team.

2.2.1.4 GDOT has granted, and has further reserved the right to grant, to other parties' utility and other permits and easements and modifications thereto and rights of use to the Existing Right of Way subject to the limitations of the DB Documents.

2.2.2 All Proposed Right of Way, as established in and designated within Exhibit 4, and Additional Properties, other than temporary interests in property for Project Specific Locations, shall be acquired in the name of GDOT.

2.2.3 DB Team represents that it has reviewed the Existing Right of Way and Proposed Right of Way, together with the scheduled delivery dates for the Proposed Right of Way and confirmed that the access rights to the Property and timing for the grant of such rights as identified therein are sufficient and complete for the performance and completion of the Work. DB Team shall give written notice to GDOT, setting forth with specificity the legal description of any Additional Properties, within ten (10) days of DB Team's determination of such need.

2.2.3.1 GDOT shall exercise the powers of condemnation when required to complete the acquisition of Proposed Right of Way and Additional Properties, including through the, subject to this Article 2.2.3, Section 7 of the Technical Provisions, and all applicable Laws relating to such acquisition, including the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act, P.L. 91-646, as amended (the "Uniform Relocation Act").Except as otherwise authorized by Law for temporary Project Specific Locations, GDOT (a) shall not be obligated to exercise its power of eminent domain in connection with DB Team's acquisition of any such temporary right or interest, nor shall (b) have any obligations or responsibilities with respect to the acquisition, maintenance or disposition of such temporary rights or interests

2.2.3.2 Except as provided in this Article 2.2.3, DB Team shall be responsible for all costs, expenses, and delays associated with acquiring all Project Specific Locations and Additional Properties under this Agreement, including (a) the cost of acquisition services and document preparation, (b) the cost of condemnation proceedings required by the Office of the Georgia Attorney General, through jury trials and appeals, including attorneys' and expert witness fees, and all fees and expenses for exhibits, transcripts, photos and other documents and materials production, (c) the purchase prices, court awards or judgments, for all parcels required for the Project or the Work, (d) the cost of permanent or temporary acquisition of leases, easement and other interests in real property, including for drainage, temporary work space, lay down areas, material storage areas, earthwork borrow sites, and any other convenience of DB Team, (e) the cost of permitting, (f) closing costs associated with parcel purchases, in accordance with the Uniform Act and GDOT policies, and (g) relocation assistance payments and costs, in accordance with the Uniform Act. If GDOT incurs any such costs and expenses on DB Team's behalf, GDOT may submit any invoices for such costs and expenses to DB Team, in which case DB Team shall pay the invoices within thirty (30) days of DB Team's receipt of such invoices. As a condition precedent to GDOT exercising its condemnation powers and the Office of Georgia Attorney General initiating any condemnation proceedings with respect to a parcel, DB Team shall pay to GDOT the estimated amount of the costs of the condemnation proceedings, including the required monetary court deposit associated with such parcel and estimated attorneys' fees. If GDOT pays any such costs and expenses on DB Team's behalf, DB Team shall reimburse GDOT within thirty (30) days of DB Team's receipt of an invoice therefor. Other than excess amounts, if any, remaining after such condemnation proceedings, which shall be returned to DB Team, DB Team shall not be entitled to payment or reimbursement for any costs or expenses as set forth in this Article, nor shall such costs or expenses be included on account of any Compensation Event..

2.2.3.3 Except for GDOT's failure to deliver such portion of the Proposed Right of Way, exclusive of Project Specific Locations and Additional Properties, as required pursuant to this Article 2.2, and solely to the extent (a) any such delay in delivery of access to any portion of the Proposed Right of Way (i) results in a GDOT-Caused Delay which constitutes a Relief Event, (ii) is as a result of a GDOT Change, or (b) this Agreement expressly otherwise provides for a Relief Event and/or Compensation Event on account thereof, DB Team shall be solely responsible for all costs and delay associated therewith. Further, DB Team shall be solely responsible for all costs and delay associated with the acquisition of any Project Specific Locations and Additional Properties.

Article 3 CONTRACT TIME

3.1 Term of Agreement

3.1.1 This Agreement shall remain in effect until Final Acceptance, subject to the survival of all such obligations as expressly provided herein, including without limitation, any warranty periods (the "Term"); provided that this Agreement shall be subject to earlier termination in accordance with the terms of this Agreement and the DB Documents.

3.2 Project Schedule

3.2.1 As a material consideration for entering into this Agreement, DB Team hereby commits, and GDOT is relying upon DB Team's commitment, to develop, design and fully construct the Project in accordance with the milestones and time periods set forth in this Agreement and the other DB Documents, including without limitation, in the Technical Provisions,

the Project Schedule and Milestone Schedule Deadlines, subject only to delays caused by Relief Events specifically provided hereunder. The time limitations set forth for DB Team's performance of its covenants and obligations as required pursuant to the DB Documents, including without limitation performance of the Work as required pursuant to the Milestone Schedule Deadlines and Project Schedule, are of the essence, and except where this Agreement expressly provides for extension of time due to a Relief Event or allows delay subject to payment of Liquidated Damages or other compensation to GDOT, DB Team waives any right at law or in equity to tender or complete performance beyond the applicable time period, or to require GDOT to accept such performance. All references to days shall mean Calendar Days unless otherwise specified.

3.3 Contract Time, Date of Commencement, and Notice to Proceed

3.3.1 DB Team's time period for completion of the Work is the period from the Effective Date through the Final Acceptance Date, as may be adjusted for any Relief Event as expressly provided in the Agreement (the "Contract Time"). All Work shall be performed in accordance with the Milestone Schedule attached as Exhibit 9.

3.3.2 GDOT anticipates issuing NTP 1 promptly following the Effective Date, and shall in any case provide for issuance of NTP 1 within thirty (30) days from DB Team's satisfaction of the conditions for contract execution. Issuance of NTP 1 authorizes DB Team to commence preliminary design activities to include, but is not limited to preliminary engineering and other activities and analyses, such as topographic surveys, metes and bounds surveys, geotechnical investigations, hydrologic analysis, hydraulic analysis, utility engineering, traffic studies, financial plans, revenue estimates, hazardous materials assessments, general estimates of the types and quantities of materials, and other work needed to establish the parameters for the Final Design. Prior to completion of the Environmental Documents review process, any such preliminary engineering and other activities and analyses must not materially affect the objective consideration of alternatives in the Environmental Documents review process. Preliminary design activities shall be completed in accordance with the Management Plans, the Technical Provisions, and other activities anticipated to be performed after NTP 1, including satisfying the conditions to issuance of NTP 3 under Article 3.3.1.3.

3.3.2.1 Issuance of NTP 2 authorizes the DB Team to perform Final Design activities. NTP 2 will be issued upon acceptance of the preliminary bridge plans by GDOT.

3.3.2.2 Issuance of NTP 3, also referred to as Released for Construction ("RFC"), authorizes DB Team to perform all other Work and activities pertaining to the Project, subject to conforming RFC Plans as may be related to commencement of any Element of the Construction Work. DB Team may not proceed to commence any construction activity with respect to the Project except as authorized pursuant to an RFC. An RFC may be issued for the entire project or any Construction Phase of the project. GDOT anticipates issuing NTP 3 within five (5) days from DB Team's satisfaction of the following conditions:

(a) Submittal by DB Team to GDOT and acceptance by GDOT of the Quality Management Plan in accordance with Article 9 of this Agreement and Section 2 of the Technical Provisions;

(b) Submittal by DB Team to GDOT and acceptance by GDOT of DB Team's Safety Plan of Project;

(c) Submittal by DB Team to GDOT and acceptance by GDOT of DB Team's Final Plans for the phases of the Project under Section 1.2 of the Technical Provisions;

(d) Submittal by DB Team to GDOT and acceptance by GDOT of DB Team's proposed Schedule of Values;

(e) Submittal by DB Team to GDOT and acceptance by GDOT of the DB Team's proposed Project Baseline Schedule under Section 2 of the Technical Provisions;

(f) Evidence by DB Team of all required Government Approvals as required under Article 6.2 for the approved Project Phase;

(g) Submittal by DB Team to GDOT and acceptance by GDOT of all Standard Utility Agreements, Utility Encroachment Permits, Utility Relocation Plans, and/or Certification of "No-Conflict" for the approved Project Phase, if required;

(h) Submittal by DB Team to GDOT of qualified Worksite Utility Control Supervisor (WUCS), Worksite Erosion Control Supervisor (WECS), and Worksite Traffic Control Supervisor (WTCS); and

(i) GDOT provided Right-of-Way certification.

3.3.2.3 Notwithstanding any provision to the contrary in this Article 3.3, DB Team shall not perform, nor be obligated to perform, any portion of the Work prior to issuance of Approval of the Environmental Documents.

3.3.3 DB Team shall satisfy all conditions prior to issuance of NTP 3. DB Team shall satisfy all conditions to commencement of the Construction Work and commence such Construction Work with diligence and continuity, by the deadlines therefor set forth in Milestone Schedule attached as Exhibit 9, and any adjustments set forth therein, all as the same may be extended pursuant to this Agreement.

3.3.4 DB Team shall achieve Substantial Completion on or before the Substantial Completion Deadline and Final Acceptance on or before the Final Acceptance Deadline, time being of the essence.

3.3.5 Reserved

3.3.6 Reserved

Article 4 RESERVED

Article 5 DB CONTRACT SUM, PAYMENTS, AND PUBLIC FUNDS

5.1 Payment of DB Contract Sum

GDOT shall pay DB Team the DB Contract Sum on account of Work properly performed in accordance with the terms and conditions set forth in GDOT Standard Specifications Section 109. DB Team, in consideration for all Work performed in accordance with the DB Documents, shall be entitled to receive the DB Contract Sum, which amount is inclusive of all fees, overhead, profit, insurance and bond premiums, labor and material costs, installations, delivery, warehouse

and handling charges, duties, taxes and other assessments. DB Team's rights to receive payment of the DB Contract Sum, as compensation for Work performed, are set forth in GDOT Standard Specifications Section 109.

5.2 GDOT Monetary Obligations and Overall Limitation of Liability

5.2.1 Notwithstanding anything to the contrary in the DB Documents, in no event shall GDOT's outstanding liability to DB Team under the DB Documents, including liability related to Compensation Events and Compensation Amounts, exceed the amount of compensation that would be payable to DB Team pursuant to a Termination for Convenience under Article 19.1.

Article 6 PROJECT PLANNING AND ACCEPTANCES; PROJECT ADMINISTRATION, REVIEW AND OVERSIGHT; PUBLIC INFORMATION

6.1 Preliminary Planning and Engineering Activities; Site Conditions

6.1.1 DB Team shall perform or cause to be performed all architectural and engineering activities appropriate for design and construction of the Project in accordance with Good Industry Practice and the DB Documents, which may include, subject to the scope of Work set forth in the DB Documents or as required by GDOT by Supplemental Agreement or Directive Letter: (a) Utility Adjustments (b) technical studies and analyses; (c) geotechnical investigations; (d) right-of-way mapping, surveying and appraisals; (e) Subsurface Utility Engineering(SUE) investigations and mapping; (f) Hazardous Materials investigations; and (g) design and construction surveys.

6.1.2 Except to the extent that DB Team is entitled to a Relief Event and/or a Compensation Event under this Agreement, DB Team shall bear the risk of any incorrect or incomplete review, examination and investigation by it of the Site or the Existing Improvements and surrounding locations, and of any incorrect or incomplete information resulting from preliminary architectural and engineering activities conducted by DB Team, GDOT or any other Person. DB Team acknowledges and agrees that GDOT does not make any warranties or representations as to any surveys, data, reports or other information provided by GDOT or other Persons concerning surface conditions and subsurface conditions, including the presence of Utilities, Hazardous Materials, contaminated groundwater, archeological, paleontological and cultural resources, and Threatened or Endangered Species, affecting the Site, the Existing Improvements or surrounding locations. DB Team acknowledges that such information is for DB Team's reference only and has not been verified.

6.1.3 Except to the extent that DB Team is entitled to a Relief Event and/or a Compensation Event under this Agreement, DB Team shall bear the risk of all conditions occurring on, under or at the Site and the Existing Improvements, including (a) physical conditions of an unusual nature, differing materially from those ordinarily encountered in the area, (b) changes in surface topography, (c) variations in subsurface moisture content, (d) Utility facilities, (e) the discovery at, near or on the Property of any archeological, paleontological or cultural resources, and (f) the discovery at, near or on the Property of any Threatened or Endangered Species.

6.2 Governmental Approvals and Third Party Agreements

6.2.1 GDOT has responsibility for obtaining all Governmental Approvals for the Project specifically listed in Section 4.2 of the Technical Provisions ("Provided Approvals") based on the

design schematic contained in the approved Environmental Documents. DB Team shall obtain all other Governmental Approvals and, except to the extent the DB Documents expressly provide GDOT is responsible therefor, all third party approvals and agreements required in connection with the Project or the Work, including any modifications, renewals and extensions of the Provided Approvals, including those required in connection with a Compensation Event. DB Team shall deliver to GDOT true and complete copies of all new or amended Governmental Approvals and third party approvals and agreements. In no event shall GDOT be responsible or liable for any delays in obtaining Provided Approvals to the extent such delays are caused by differences between the schematic contained in the approved Environmental Documents and DB Team's Final Plans, unless such differences are due to a GDOT Change, as described in Article 14.

6.2.2 Prior to submitting to a Governmental Entity any application for a Governmental Approval (or any proposed modification, renewal, extension or waiver of a Governmental Approval or provision thereof), DB Team shall submit the same, together with any supporting environmental studies and analyses, to GDOT (a) for acceptance or (b) for review and comment, as specified in the Technical Provisions in Table 4-2.

6.2.3 Except as expressly set forth in this Agreement to the contrary, in the event DB Team's design differs from the schematic contained in the approved Environmental Documents upon which the Provided Approvals were based, as among GDOT and DB Team, DB Team shall support necessary actions, and shall bear all risk of delay, resulting from or arising out of any associated change in the Project location and design, including (a) conducting all necessary environmental studies and preparing all necessary Environmental Documents in compliance with applicable Environmental Laws, and (b) obtaining and complying with all necessary new Governmental Approvals (including any modifications, renewals and extensions of the Provided Approvals, and other existing Governmental Approvals).

6.2.4 Subject to clauses (h), (i) and (n) of the definition of Compensation Event and clauses (o), (p) and (t) of the definition of Relief Event and except to the extent required under the Technical Requirements, in the event DB Team is unable to obtain necessary Governmental Approvals for any design that differs from the schematics contained in the approved Environmental Documents upon which Provided Approvals were based, DB Team shall be obligated to design and construct the Project according to a design in compliance with the requirements of the Provided Approvals, and no such circumstance shall constitute a Relief Event, Compensation Event or other basis for any Claim.

6.2.5 At DB Team's request, GDOT shall reasonably assist and cooperate with DB Team in obtaining from Governmental Entities the Governmental Approvals (including any modifications, renewals and extensions of existing Governmental Approvals from Governmental Entities) required to be obtained by DB Team under the DB Documents.

6.2.6 DB Team shall comply with all conditions imposed by and undertake all actions required by and all actions necessary to maintain in full force and effect all Governmental Approvals, including performance of all environmental mitigation measures required by the DB Documents or Governmental Approvals, except to the extent that responsibility for performance of such measures is expressly assigned to GDOT in the DB Documents.

6.2.7 In the event that any Governmental Approvals required to be obtained by DB Team must formally be issued in GDOT's name, DB Team shall undertake necessary efforts to

obtain such approvals subject to GDOT's reasonable cooperation with DB Team, as the case may be, at DB Team's expense (except in connection with a Compensation Event), in accordance with Article 6.2.5, including execution and delivery of appropriate applications and other documentation in form accepted by GDOT. Refer to Section 4.2 of the Technical Provisions for more specific provisions on applications in GDOT's name for Environmental Approvals.

6.2.8 In the event that GDOT must act as the lead agency and directly coordinate with a Governmental Entity in connection with obtaining Governmental Approvals which are the responsibility of DB Team, DB Team shall provide all necessary support to facilitate the approval, mitigation or compliance process. Such support may include conducting necessary field investigations, surveys, and preparation of any required reports, documents and applications.

6.2.9 DB Team shall be responsible for compliance with all applicable Laws in relation to Project Specific Locations and Additional Properties for obtaining any Environmental Approval or other Governmental Approval required in connection with Project Specific Locations.

6.2.10 DB Team shall not enter into any agreement with any Governmental Entity, Utility Owner, railroad, property owner or other third party having regulatory jurisdiction over any aspect of the Project or Work or having any property interest affected by the Project or the Work that in any way purports to obligate GDOT, or the State or an agency or department thereof, or states or implies that GDOT has an obligation, to the third party to carry out any installation, design, construction, maintenance, repair, operation, control, supervision, regulation or other activity after the end of the Term, unless GDOT otherwise accepts in writing in its sole discretion. DB Team has no power or authority to enter into any such agreement with a third party in the name or on behalf of GDOT.

6.3 Review and Oversight

6.3.1 Submittal, Review and Acceptance Terms and Procedures

6.3.1.1 This Article 6.3 sets forth uniform terms and procedures that shall govern all Submittals pursuant to the DB Documents and component plans thereunder. In the event of any irreconcilable conflict between the provisions of this Article 6.3 and any other provisions of the DB Documents and component plans thereunder concerning submission, review and acceptance procedures, this Article 6.3 shall exclusively govern and control, except to the extent that the conflicting provision expressly states that it supersedes this Article 6.3.

6.3.2 Time Periods

6.3.2.1 Except as expressly set forth in Section 23 of the Technical Provisions or as provided below, whenever GDOT is entitled to review and comment or accept a Submittal, GDOT shall promptly respond and/or act upon such Submittal within thirty (30) days from the date it receives an accurate and complete Submittal, together with a completed transmittal form in form to be mutually agreed and all necessary information and documentation concerning the subject matter. Any period of review by GDOT in excess of thirty (30) days, except where Section 23 of the Technical Provisions provides for a longer time period, shall be deemed a GDOT Caused-Delay and give rise to Relief Event. The time periods set forth in the DB Documents for GDOT's review and acceptance of Submittals, as and to the extent required shall apply to and restart with all re-Submittals which DB Team may be required to provide.

6.3.2.2 Reserved.

6.3.2.3 The time periods set forth herein with respect to GDOT's review and acceptance or comment on Submittals shall be subject to adjustment as provided in Section 23 of the Technical Provisions for multiple concurrent Submittals.

6.3.2.4 All time periods for GDOT to act upon Submittals shall be extended by the period of any delay caused by any Relief Event impacting same, including as set forth in clauses (a), (b), (c), (m) and (n) of the definition of Relief Event or otherwise as and to the extent of any delay of DB Team or any DB Team-Related Entity.

6.3.2.5 During any time that GDOT is entitled under Article 17.3.8 to increase the level of its auditing, monitoring, inspection, sampling, measuring, testing and oversight of the Project, the Utility Adjustments and DB Team's compliance with its obligations under the DB Documents, the applicable period for GDOT to act on any Submittals received during such time and not related to curing the DB Team Default(s) that instigated the Article 17.3.8 action shall automatically be extended by fourteen (14) days.

6.3.2.6 GDOT shall endeavor to reasonably accommodate a written request from DB Team for expedited action on a specific Submittal, within the practical limitations on availability of personnel appropriate for acting on the types of Submittal in question; provided DB Team sets forth in its request specific, abnormal circumstances demonstrating the need for expedited action. This provision shall not apply, however, during any time described in Article 6.3.2.4 or 6.3.2.5.

6.3.3 GDOT Discretionary Acceptances

If the Submittal is one where the DB Documents indicate consent or acceptance is required from GDOT in its sole discretion, absolute discretion, unfettered discretion or good faith discretion, then GDOT's lack of acceptance, determination, decision or other action within the applicable time period under Article 6.3.2 shall be deemed disapproval.

6.3.4 Other GDOT Acceptances

6.3.4.1 Whenever the DB Documents indicate that a Submittal or other matter is subject to GDOT's acceptance or consent and no particular standard therefor is stated, then the standard shall be reasonableness.

6.3.4.2 If the reasonableness standard applies to GDOT's right of acceptance of or consent to a Submittal, and GDOT delivers no acceptance, consent, determination, decision or other action within the applicable time period under Article 6.3.2, then DB Team may deliver to GDOT a written notice stating the date within which GDOT was to have decided or acted and that if GDOT does not decide or act within five (5) Business Days after receipt of the notice, delay from and after that date (five (5) Business Days after receipt of the notice) may constitute GDOT-Caused Delay for which DB Team may be entitled to issue a Relief Event Notice and Compensation Event Notice under Article 13.1 and Article 13.2.

6.3.5 GDOT Review and Comment

Whenever the DB Documents indicate that a Submittal or other matter is subject to GDOT's review, comment, review and comment, disapproval or similar action not entailing a prior acceptance and GDOT delivers no comments, exceptions, objections, rejections or disapprovals within the applicable time period under Article 6.3.2, then DB Team may proceed thereafter at its election and risk, without prejudice to GDOT's rights to later object or disapprove in accordance with Article 6.3.7.1. No such failure or delay by GDOT in delivering comments, exceptions, objections, rejections or disapprovals within the applicable time period under Article 6.3.2 shall constitute a Relief Event, Compensation Event or other basis for any Claim. When used in the DB Documents, the phrase "completion of the review and comment process" or similar terminology means either (a) GDOT has reviewed, provided comments, exceptions, objections, rejections or disapprovals, and all the same have been resolved, or (b) the applicable time period has passed without GDOT providing any comments, exceptions, objections, rejections or disapprovals.

6.3.6 Submittals Not Subject to Prior Review, Comment or Acceptance

Whenever the DB Documents indicate that DB Team is to deliver a Submittal to GDOT but express no requirement for GDOT review, comment, disapproval, prior acceptance or other GDOT action, then DB Team is under no obligation to provide GDOT any period of time to review the Submittal or obtain acceptance of it before proceeding with further Work, and GDOT shall have the right, but is not obligated, to at any time review, comment on, take exception to, object to, reject or disapprove the Submittal in accordance with Article 6.3.7.1. No failure or delay by GDOT in delivering comments, exceptions, objections, rejections or disapprovals with respect to any Submittal as set forth in this Article shall constitute a Relief Event, Compensation Event or other basis for any Claim.

6.3.7 Resolution of GDOT Comments and Objections

6.3.7.1 If the Submittal is one not governed by Article 6.3.3, GDOT's exception, objection, rejection or disapproval shall be deemed reasonable, valid and binding if based on any of the following grounds:

(a) The Submittal or subject provision thereof fails to comply with any applicable covenant, condition, requirement, term or provision of the DB Documents or Management Plans thereunder;

(b) The Submittal or subject provision thereof is not to a standard equal to or better than the requirements of Good Industry Practice;

(c) DB Team has not provided all content or information required in respect of the Submittal or subject provisions thereof, provided that GDOT assumes no duty, obligation or liability regarding completeness or correctness of any Submittal, including a Submittal that is to be delivered to a Governmental Entity as a proposed Governmental Approval, or in order to obtain, modify, amend, supplement, renew, extend, waive or carry out a Governmental Approval;

(d) Adoption of the Submittal or subject provision thereof, or of any proposed course of action thereunder, would result in a conflict with or violation of any Law or Governmental Approval; or

(e) In the case of a Submittal that is to be delivered to a Governmental Entity as a proposed Governmental Approval, or in order to obtain, modify, amend, supplement, renew,

extend, waive or carry out a Governmental Approval, it proposes commitments, requirements, actions, terms or conditions that are not arrangements that GDOT offers or accepts for addressing similar circumstances affecting its own projects.

6.3.7.2 DB Team shall timely and promptly respond to all of GDOT's comments and objections to a Submittal and, except as provided below, make modifications to the Submittal as necessary to fully reflect and resolve all such comments and objections, in accordance with the review processes set forth in this Article 6.3. DB Team acknowledges that GDOT may provide comments and objections which reflect concerns regarding interpretation or preferences of the commenter or which otherwise do not directly relate to grounds set forth in Article 6.3.7.1. DB Team agrees to undertake reasonable efforts to accommodate or otherwise resolve any such comments or objections through the review processes described in this Article 6.3. However, if the Submittal is not governed by Article 6.3.3, the foregoing shall in no way be deemed to obligate DB Team to incorporate any comments or resolve objections that are not on any of the grounds set forth in Article 6.3.7.1 and would result in a delay to a Critical Path on the Project Schedule, or an increase in DB Team's costs, except pursuant to a GDOT Change as described in Article 14. If, however, DB Team does not accommodate or otherwise resolve any comment or objection, DB Team shall deliver to GDOT within a reasonable time period, not to exceed fourteen (14) days after receipt of GDOT's comments or objections, a written explanation why modifications based on such comment or objection are not required. The explanation shall include the facts, analyses and reasons that support the conclusion.

6.3.7.3 The foregoing shall in no way be deemed to obligate DB Team to incorporate any comments or resolve objections that would render the Submittal erroneous, defective or less than Good Industry Practice, except pursuant to a GDOT Change.

6.3.7.4 If DB Team fails to notify GDOT within such time period, GDOT may deliver to DB Team a written notice stating the date by which DB Team was to have addressed GDOT's comments and that if DB Team does not address those comments within five (5) Business Days after receipt of this notice, then that failure shall constitute DB Team's agreement to make all changes necessary to accommodate and resolve the comment or objection and full acceptance of all responsibility for such changes without right to a Relief Event, Compensation Event or other Claim.

6.3.7.5 After GDOT receives DB Team's explanation as to why the modifications are not required as provided in Article 6.3.7.2, Article 6.3.7.3 and Article 6.3.7.4, the Parties shall attempt in good faith to resolve the Dispute. If they are unable to resolve the Dispute, it shall be resolved according to Article 17 except (a) as provided otherwise in Article 6.3.3, and (b) if GDOT elects to issue a Directive Letter pursuant to Article 14.3 with respect to the disputed matter, the DB Team shall proceed in accordance with GDOT's directive while retaining any Claim as to the disputed matter.

6.3.8 Limitations on DB Team's Right to Rely

6.3.8.1 No review, comment, objection, rejection, acceptance, disapproval, acceptance, certification (including certificates of Substantial Completion and Final Acceptance), concurrence, monitoring, testing, inspection, spot checking, auditing or other oversight by or on behalf of GDOT or their representatives or agents, and no lack thereof by GDOT, or their representatives or agents, shall constitute acceptance of materials or Work or waiver of any legal or equitable right under the DB Documents, at Law, or in equity. GDOT shall be entitled to

remedies for Nonconforming Work and to identify additional Work which must be done to bring the Work and Project into compliance with requirements of the DB Documents, regardless of whether previous review, comment, objection, rejection, acceptance, disapproval, acceptance, certification, concurrence, monitoring, testing, inspection, spot checking, auditing or other oversight were conducted or given by GDOT, or their representatives or agents. Regardless of any such activity or failure to conduct any such activity by GDOT, or their representatives or agents, DB Team at all times shall have an independent duty and obligation to fulfill the requirements of the DB Documents. DB Team agrees and acknowledges that any such activity or failure to conduct any such activity by GDOT, or their representatives or agents:

(a) is solely for the benefit and protection of GDOT;

(b) does not relieve DB Team of its responsibility for the selection and the competent performance of all DB Team-Related Entities;

(c) does not create or impose upon GDOT any duty or obligation toward DB Team to cause it to fulfill the requirements of the DB Documents;

(d) shall not be deemed or construed as any kind of warranty, express or implied, by GDOT;

(e) may not be relied upon by DB Team or used as evidence in determining whether DB Team has fulfilled the requirements of the DB Documents; and

(f) may not be asserted by DB Team against GDOT as a defense, legal or equitable, to, or as a waiver of or relief from, DB Team's obligation to fulfill the requirements of the DB Documents.

6.3.8.2 DB Team shall not be relieved or entitled to reduction of its obligations to perform the Work in accordance with the DB Documents, or any of its other liabilities and obligations, including its indemnity obligations, as the result of any activity identified in Article 6.3.8.1 or failure to conduct any such activity by GDOT. Such activity by GDOT shall not relieve DB Team from liability for, and responsibility to cure and correct Nonconforming Work or DB Team Defaults.

6.3.8.3 To the maximum extent permitted by Law, DB Team hereby releases and discharges GDOT from any and all duty and obligation to cause DB Team's Work or the Project to satisfy the standards and requirements of the DB Documents.

6.3.8.4 Notwithstanding the provisions of Article 6.3.8.1, Article 6.3.8.2 and Article 6.3.8.3:

(a) DB Team shall be entitled to rely on written approvals, acceptances, lack of responses from GDOT (i) for the limited purpose of establishing that the approval, acceptance or lack of response occurred or (ii) that are within its sole discretion, but only to the extent that DB Team is prejudiced by a subsequent decision of such party to rescind such approval or acceptance;

(b) Reserved

(c) DB Team shall be entitled to rely on the certificates of Substantial Completion and Final Acceptance from GDOT for the limited purpose of establishing that Substantial Completion and Final Acceptance, as applicable, have occurred, and the respective dates thereof;

(d) GDOT is not relieved from any liability arising out of a knowing and intentional material misrepresentation under any written statement GDOT delivers to DB Team; and

(e) GDOT is not relieved from performance of its express responsibilities under the DB Documents in accordance with all standards applicable thereto.

6.3.9 Inspection and Testing; Limitations

6.3.9.1 At all times during the term of this Agreement, GDOT shall have the right to conduct the monitoring, reviewing, inspection, testing, reporting, auditing and other oversight functions set forth in the DB Documents, including without limitation:

(a) monitoring and auditing DB Team and its books and records to determine compliance with requirements of the DB Documents and the accepted Management Plans, including audit review of Design Documents, Plans, Construction Documents and other Submittals;

(b) conducting field monitoring and inspections on an audit basis as indicated in the DB Documents, including in connection with GDOT's certifications of Substantial Completion and Final Acceptance;

(c) develop quality reports, regular audit reports, reports on Defects, other reports, and findings, opinions, evaluations, comments, objections and recommendations, all as more particularly set forth in the DB Documents;

(d) reviewing and commenting on all Submittals for which GDOT review and comment or acceptance is required under the DB Documents, unless expressly provided otherwise in the DB Documents, or unless waived in writing by the Parties for a specific Submittal or type of Submittal;

(e) attending and witnessing DB Team's tests and inspections;

(f) auditing the books and records of Key Contractors to confirm compliance with the DB Documents and applicable Law;

(g) investigating, analyzing and reporting on Safety Compliance and performance of Safety Compliance Orders; and

(h) reviewing, commenting on and giving recommendations, objections or disapprovals regarding the Project Payment Request and revisions thereto, and processing such Project Payment Request.

6.3.9.2 GDOT shall have the right to attend and witness any tests and verifications to be conducted pursuant to the Technical Provisions and applicable Management Plans. DB Team shall provide to GDOT all applicable test results and reports (which may be

provided in electronic format in accordance with the Technical Provisions) within ten (10) days after DB Team receives them.

6.3.10 Oversight by GDOT for Federal Compliance

6.3.10.1 In addition to GDOT's rights of oversight, inspection, monitoring and auditing of DB Team's Work, GDOT shall independently have the right at all times to monitor, inspect, sample, measure, attend, observe or conduct tests and investigations, and conduct any other oversight respecting any part or aspect of the Project or the Work, to the extent necessary or advisable (a) to comply with U.S. Army Corps of Engineers or other applicable federal agency requirements, and (b) to verify on an audit basis DB Team's compliance with the DB Documents and Management Plans as provided in Article 22.2.

6.3.10.2 DB Team acknowledges and agrees that GDOT will have the right to audit, monitor and inspect DB Team and its Contractors compliance with Good Industry Practice and its responsibilities and obligations under the DB Documents.

6.3.10.3 GDOT will not conduct formal prior reviews of Design Documents except to the extent necessary or advisable to comply with U.S. Army Corps of Engineers or other applicable federal agency requirements, provided that the aforementioned shall not limit GDOT rights pursuant to this Agreement. GDOT reserves the right to conduct "over-the-shoulder" reviews of Design Documents or other Submittals as they may deem necessary or appropriate, including pursuant to Article 17.3.8, provided that they shall not have any obligation to conduct such reviews nor assume any responsibility for DB Team's Work, regardless of whether or not electing to perform or performing any such reviews.

6.3.10.4 Nothing in the DB Documents shall preclude, and DB Team shall not interfere with, any review, audit or oversight of Submittals.

6.3.11 Rights of Cooperation and Access; Increased Oversight

6.3.11.1 DB Team shall coordinate and cooperate, and require its Contractors to coordinate and cooperate, with GDOT and any such parties as provided in Article 6.3 to facilitate the full, efficient, effective and timely performance of all such monitoring, inspection, sampling, measuring, testing, reporting, auditing, and other oversight functions. DB Team shall cause its representatives to be available at all reasonable times for consultation with GDOT and such other parties as required.

6.3.11.2 Without limiting the foregoing, DB Team shall afford GDOT (a) safe and unrestricted access to the Project at all times, (b) safe access during normal business hours to DB Team's Project offices and operations buildings and (c) unrestricted access to data respecting the Project design, construction, operations and maintenance, and the Utility Adjustment Work. Without limiting the foregoing, DB Team shall deliver to GDOT upon request accurate and complete books, records, data and information regarding Work, the Project and the Utility Adjustment Work, in the format required by the Technical Provisions.

6.3.11.3 GDOT shall have the right to increase the type and level of their oversight as provided in Article 6.3

6.3.12 Limits of Responsibility For Oversight, Review, Recommendations, Inspection and Acts by GDOT

6.3.12.1 Although GDOT, and its representatives and agents may consult with DB Team during the course of the Work, no such party shall have control over, charge of, or responsibility for the any of the Work, including without limitation, any design or engineering thereof, or means, methods, techniques, sequences or procedures in connection therewith, nor shall any such party be responsible for DB Team's failure to perform the Work in accordance with the requirements of the DB Documents. Any such review is not for the purpose of determining the accuracy and completeness of information or work product, all of which are DB Team's responsibility. Any review, recommendation, acceptance, inspection, response, act or omission with respect to any Submittals, or with respect to the Project, the Work (whether Construction Work or Design Work), or the Construction Documents shall be pursuant to, and solely in furtherance of the inspection powers as set forth in O.C.G.A. § 50-21-24(8). DB Team shall, at all times and notwithstanding any such acts or omissions by GDOT as provided in this Article 6 or elsewhere in this Agreement, be fully responsible for all architectural design and engineering required for the Project. DB Team expressly waives and releases (a) all claims for right of contribution against either GDOT or their respective representatives and agents, other than for such parties' sole negligence, arising from or related to any third party claims, including without limitation for personal injury, death, or property damage, and (b) all claims and defenses by DB Team against GDOT, or their respective representatives and agents in derogation of the limitations of this Article 6, including this Article 6.3.12, and/or that any or all of such parties otherwise have, or by their acts or omissions, assumed any responsibility for, or related to, the design or construction of the Project, or any means, methods, or techniques in respect thereof. DB Team hereby further expressly waives any claim or defense the basis of which is to assert that GDOT may not delegate the responsibility for any Element of the design and construction of the Project involving public roadways, signs, or traffic controls to DB Team as provided in this Agreement.

6.4 Community Outreach and Public Information

DB Team shall provide on-going information to the public concerning the development of the Project, in accordance with Section 3 of the Technical Provisions, if applicable.

Article 7 DEVELOPMENT OF THE PROJECT

7.1 General Obligations of DB Team

DB Team, in addition to performing all other requirements of the DB Documents, shall:

7.1.1 Furnish all design, engineering and other services, provide construction management and all work, including all materials, equipment, labor, and installations, and undertake all efforts necessary or appropriate (excluding only those materials, services and efforts which the DB Documents expressly specify will be undertaken by GDOT or other Persons) to construct the Project and maintain it during construction, so as to achieve Substantial Completion and Final Acceptance by the applicable Milestone Schedule Deadlines;

7.1.2 At all times provide a Project Manager approved by GDOT who (a) will have full responsibility for the prosecution of the Work, including Design Work and Construction Work, (b) will act as agent and be a single point of contact in all matters on behalf of DB Team, (c) will be present (or his/her designee approved by GDOT will be present) at the Site at all times that Design Work or Construction Work is performed, and (d) will be available to respond to GDOT;

7.1.3 Comply with, and require that all Contractors comply with, all requirements of all applicable Laws;

7.1.4 Cooperate with GDOT, and Governmental Entities with jurisdiction in all matters relating to the applicable portions of the Work, including Design Work and Construction Work for the Project, including their review, inspection and oversight of the design and construction; and

7.1.5 Use commercially reasonable efforts to mitigate delay to design and construction of the Project and mitigate damages due to delay in all circumstances, to the extent possible, including by re-sequencing, reallocating, or redeploying DB Team's and its Contractors' forces to other work, as appropriate.

7.2 Performance, Design and Construction Standards

7.2.1 DB Team shall furnish all aspects of the Design Work and all Design Documents, and shall construct the Project and perform the Construction Work as designed, free from Defects, and in accordance with (a) Good Industry Practice, (b) the requirements, terms and conditions set forth in the DB Documents, (c) the Project Schedule, (d) all Laws, (e) the requirements, terms and conditions set forth in all Governmental Approvals, and (f) the requirements of the accepted Quality Management Plan or to be prepared thereunder, in each case taking into account the Existing Right of Way, Required Right of Way, and any Additional Property limits and other constraints affecting the Project and the Property.

7.2.2 Reserved.

7.2.3 DB Team acknowledges that prior to the Effective Date it had the opportunity to identify any provisions of the Technical Provisions or Technical Documents that are erroneous or create a potentially unsafe condition, and the opportunity and duty to notify GDOT in writing of such fact and of the changes to the provision that DB Team believed were the minimum necessary to render it correct and safe. If it is reasonable or necessary to adopt changes to the Technical Provisions or Technical Documents after the Effective Date to make the provisions correct and safe, such changes shall not be grounds for a Relief Event or Compensation Event unless (a) DB Team neither knew nor had reason to know prior to the Effective Date that the provision was erroneous or created a potentially unsafe condition or (b) DB Team knew of and reported to GDOT the erroneous or potentially unsafe provision prior to the Effective Date and GDOT did not adopt reasonable and necessary changes. Except for a circumstance as set forth under (b) herein, if DB Team commences or continues any Design Work or Construction Work affected by such a change after the need for the change was discovered or suspected, or should have been discovered or suspected through the exercise of reasonable care, DB Team shall bear any additional costs associated with redoing the Work already performed. Inconsistent or conflicting provisions of the DB Documents shall not be treated as erroneous provisions under this Article 7.2.3, but instead shall be governed by Article 1.2.

7.2.4 References in the Technical Provisions or Technical Documents to manuals or other publications governing the Design Work or Construction Work prior to the Substantial Completion Date shall mean the most recent editions in effect at the date of the RFP advertisement, unless expressly provided otherwise. Any changes to the Technical Provisions and Technical Documents, including Safety Standards, respecting Design Work or Construction Work prior to the Substantial Completion Date shall be subject to the Supplemental Agreement

process for a GDOT Change in accordance with Article 14. Safety Compliance changes shall be in accordance with Article 12.1.

7.2.5 The Parties anticipate that from time to time after the Effective Date, GDOT will adopt, through revisions to existing manuals and publications or new manuals and publications, changed, added or replacement standards, criteria, requirements, conditions, procedures, specifications and other provisions, including Safety Standards, relating to Design Work and Construction Work. GDOT shall have the right to add such changed, added or replacement standards, criteria, requirements, conditions, procedures, specifications and other provisions, including Safety Standards, to Volume 3 by notice to DB Team, whereupon they shall constitute amendments, and become part, of the Technical Documents. If such changed, added or replacement Technical Documents or Safety Standards encompass matters that are addressed in the Technical Provisions or Technical Documents as of the Effective Date, they may, upon inclusion in Volume 3, replace and supersede inconsistent provisions of the Technical Provisions and Technical Documents to the extent designated by GDOT in its sole discretion. GDOT will identify the superseded provisions in its notice to DB Team. Notwithstanding the foregoing, in the absence of a GDOT Change and except as provided otherwise in Article 7.5.3 with respect to Adjustment Standards, if GDOT adopts the changed, added or replacement standards, criteria, requirements, conditions, procedures, specifications and other provisions, including changed, added or replacement Safety Standards, prior to the Final Acceptance Date, DB Team shall not be obligated to (but may) incorporate the same into its design and construction of the Project prior to the Final Acceptance Date.

7.3 Design Implementation and Submittals

7.3.1 DB Team, through the appropriately qualified and licensed design professionals identified in DB Team's Key Personnel as identified in Exhibit 2 and in accordance with Section 2 of the Technical Provisions, shall prepare designs, Plans and specifications in accordance with the DB Documents. DB Team shall cause the engineer of record for the Project to sign and seal all Released for Construction Documents.

7.3.2 DB Team shall deliver to GDOT accurate and complete duplicates of all Interim Design, and Preliminary and Final Plans and Construction Documents within the time and in the form required by the Technical Provisions.

7.4 Reserved.

7.5 Utility Adjustments

7.5.1 DB Team's Responsibility

7.5.1.1 DB Team is responsible for causing, in accordance with the Project Schedule, all Utility Adjustments necessary to accommodate construction, operation, maintenance and/or use of the Project. DB Team shall coordinate, monitor, and otherwise undertake the necessary efforts to cause Utility Owners performing Utility Adjustment Work to perform such work timely, in coordination with the Work, and in compliance with the standards of design and construction and other applicable requirements specified in the Design-Build Contract Documents.

7.5.1.2 In addition to GDOT's Project administration, GDOT shall independently have the right at all times to approve Utility Adjustments as provided herein. DB Team shall coordinate and be required to procure GDOT approval as required.

7.5.1.3 Regardless of the arrangements made with the Utility Owners, the DB Team shall continue to be the responsible party to GDOT for timely performance of all Utility Adjustment Work so that upon completion of the Work, all Utilities that might impact the Project or be impacted by it (whether located within or outside the Construction Maintenance Limits) are compatible with the Project. GDOT will provide to DB Team the benefit of any provisions in recorded utility or other easements affecting the Project which require the easement holders to relocate at their own expense (unless specified otherwise in the Technical Provisions or a Utility Agreement), subject, however, to any provisions of applicable Law affecting the easement holder's obligations for Utility Adjustments.

7.5.2 Standard Utility Agreements

7.5.2.1 The DB Team will be responsible for completion of all required Standard Utility Agreements. The DB Team will work with the State Utilities Preconstruction Engineer, or assigned designee, to acquire the appropriate Agreement template and coordinate the completion of all required Standard Utility Agreements with Utility Owners. Upon completion of the Standard Utility Agreement with the Utility Owner, the signed agreement should be forwarded to the District Utilities Engineer for review and acceptance. Upon the acceptance by the District, the Standard Utility Agreement shall be forwarded to the State Utilities Preconstruction Engineer for processing and final acceptance. As described in the GDOT Utility Accommodation Policy and Standards Manual ("UAM"), Chapter 4.2.F Agreements cover all requirements for Standard Utility Agreements

7.5.3 Requirements

Each Utility Adjustment (whether performed by DB Team, Sub-Contractor or by the Utility Owner) shall comply with the Adjustment Standards in effect as of the date of advertisement of the contract, together with any subsequent amendments and additions to those standards that (a) are necessary to conform to applicable Law, or (b) are adopted by the Utility Owner and affect the Utility Adjustment pursuant to the applicable Standard Utility Agreement(s). In addition, all Utility Adjustment Work shall comply with all applicable Laws, the applicable Standard Utility Agreement(s), and all other requirements specified in Section 6 of the Technical Provisions.

7.5.4 Failure of Utility Owners to Cooperate/Escalation

7.5.4.1 DB Team shall use diligent efforts to obtain the cooperation of each Utility Owner as necessary for Utility Adjustments. It shall be the DB Team's responsibility to coordinate and track each utilities progress in relation to the Utility Work Plan or Revised Utility Work Plan previously accepted by the Department. Once the DB Team has determined that the Utilities work progress is at least 20% behind the accepted Utility Work Plan; the DB Team will notify the Utility Owner, and the Department of such apparent delay through written correspondence. Such written correspondence shall detail the delay in question and request the Utility to submit a proposal on how the Utility Owner plans to rectify such delay and maintain the project's schedule prescribed by the previously accepted Utility Work Plan. The Utility will respond to this letter within ten (10) Business Days. The response shall include a proposal to cure the delay identified by the DB Team. In some cases, the complexity of the project may

require that a utility coordination meeting be held to address the issues identified by the DB Team. If the Utility determines that this is the case, then the Utilities response letter shall include a request to hold a utility coordination meeting with the DB Team, the Utility Engineer and the Construction Engineer for utility delay resolution. If the utility delay cannot be resolved through the coordination efforts described above after twenty (20) Business Days from the date provided in the DB Team's original written correspondence; the said Dispute shall escalate to the State Construction Engineer for further consideration. If additional escalation is required, please follow escalation procedures as outlined in the UAM.

7.5.5 Utility Permits (GUPS)

7.5.5.1 It is anticipated that during the design and construction phases of the Work, from time to time Utility Owners will apply for utility permits to install new Utilities that would cross or longitudinally occupy the Property, or to modify, upgrade, repair, relocate or expand existing Utilities within the Property for reasons other than accommodation of the Project.

7.5.5.2 For all such utility permit applications pending as of or submitted after the Effective Date, DB Team shall furnish the most recent Project design information and/or as-built Plans, as applicable, to the applicants, and shall assist each applicant with information regarding the location of other proposed and existing Utilities. DB Team shall keep records of its costs related to new Utilities separate from other costs. For all such utility permit applications pending as of or submitted after the Effective Date, DB Team shall furnish the most recent Project design information and/or as-built Plans, as applicable, to the applicants, and shall assist each applicant with information regarding the location of other proposed and existing Utilities. DB Team shall keep records of its costs related to new Utilities separate from other costs.

7.5.6 Reserved

7.5.7 Early Adjustments

7.5.7.1 If any Adjustments are designated as Early Adjustments in Section 6 of the Technical Provisions, such Adjustments are anticipated to be completed by the Utility Owner prior to the deadline therefore set forth in the Technical Provisions. DB Team's obligation to provide Protection in Place for Utilities includes any Early Adjustments, whether or not timely completed. DB Team shall coordinate with GDOT and the Utility Owner as may be necessary for orderly completion of any Early Adjustments, and DB Team shall conduct its Work without interfering with or hindering the progress or completion of any Early Adjustments.

7.6 Conditions to Commencement of Construction Work

7.6.1 Construction Work Generally

Except to the extent expressly permitted in writing by GDOT, DB Team shall not commence or permit or suffer commencement of construction of the Project, or applicable portion thereof, until GDOT issues NTP 3 and all of the conditions of Article 3.3.1.3 have been met.

7.6.2 Utility Adjustments

DB Team shall not commence or permit or suffer commencement of construction of a Utility Adjustment included in the Construction Work until GDOT issues NTP 3, and the requirements of Article 7.5 have been met.

7.7 Substantial Completion, Punch List, Final Acceptance

7.7.1 Substantial Completion

7.7.1.1 GDOT will issue a written certificate of Substantial Completion at such time as Substantial Completion occurs which shall be subject to the terms and conditions of this Article 7.7.1.

7.7.1.2 Substantial Completion shall occur upon satisfactory completion of the requirements of GDOT Standard Specification 108.07.G.

7.7.1.3 Reserved

7.7.1.4 DB Team shall provide GDOT with not less than twenty (20) days prior written notification of the date DB Team determines it will achieve Substantial Completion. During such notice period, DB Team and GDOT shall meet and confer and exchange information on a regular cooperative basis with the goal being GDOT's orderly, timely inspection and review of the Project and the applicable Final Plans and Construction Documents, and GDOT's issuance of a written certificate of Substantial Completion.

7.7.1.5 During the period specified in Article 7.7.1.4, GDOT shall conduct an inspection of the Project and its components, a review of the applicable Final Plans and Construction Documents and such other investigation as may be necessary to evaluate whether Substantial Completion is achieved. GDOT shall deliver a written report of findings and recommendations to the DB Team following such inspection, review and investigation and within five (5) days after the end of the period specified in Article 7.7.1.4. GDOT shall then either (a) issue the written certificate of Substantial Completion or (b) notify DB Team in writing setting forth, as applicable, why the Project has not reached Substantial Completion. If GDOT and DB Team cannot agree that the Substantial Completion has been completed by the Substantial Completion Date defined in Exhibit 9, such Dispute shall be resolved according to Article 17.

7.7.2 Punch List

7.7.2.1 GDOT will prepare and the DB Team shall maintain the Punch List. Each participant shall have the right to add items to the Punch List and none shall remove any item added by any other without such other's express permission. If DB Team objects to the addition of an item by GDOT, the item shall be noted as included under protest, and if the Parties thereafter are unable to reconcile the protest, the Dispute shall be resolved according to Article 17. DB Team shall deliver to GDOT a true and complete copy of the Punch List, and each modification thereto, as soon as it is prepared.

7.7.2.2 DB Team shall immediately commence work on the Punch List items and diligently prosecute such work to completion, consistent with the DB Documents, prior to issuance of Final Acceptance.

7.7.3 Final Acceptance

7.7.3.1 Promptly after achieving Substantial Completion, DB Team shall perform all remaining Construction Work for the Project, including completion of all Punch List items, all landscaping other than vegetative ground cover and aesthetic features. DB Team shall prepare and adhere to a timetable for planting and establishing the vegetative ground cover

landscaping, taking into account weather conditions necessary for successful planting and growth, which timetable shall in any event provide for vegetative ground cover landscaping to be planted and established by twelve (12) months after Substantial Completion.

7.7.3.2 GDOT will issue a written certificate of Final Acceptance at such time as all of the following have occurred for the Project:

(a) All requirements for Substantial Completion have been satisfied;

(b) All Punch List items have been completed and delivered to the reasonable satisfaction of GDOT;

(c) Reserved

(d) GDOT has received a complete set of the Record Drawings in form and content required by Section 2.3.16 and Section 23.5 of the Technical Provisions;

(e) All Utility Adjustment Work and other work that DB Team is obligated to perform for or on behalf of third parties has been accepted by such third parties, and DB Team has paid for all work by third parties that DB Team is obligated to pay for, other than disputed amounts;

(f) DB Team has paid in full all Liquidated Damages that are due to GDOT pursuant to this Agreement and are not in Dispute, and has provided to GDOT reasonable security for the full amount of Liquidated Damages that may then be the subject of an unresolved Dispute;

(g) There exist no uncured DB Team Defaults that are the subject of a Warning Notice, or with the giving of notice or passage of time, or both, could become the subject of a Warning Notice (except any DB Team Default for which Final Acceptance will affect its cure);

(h) DB Team has received, and paid all associated fees for, all applicable Governmental Approvals and other applicable third party approvals required pursuant to the DB Documents, and there exists no uncured material violation of the terms and conditions of any such Governmental Approval or other third party approvals;

(i) DB Team has delivered to GDOT all warranties, manuals and other Deliverables as required pursuant to the Technical Provisions; and

(j) DB Team has delivered to GDOT verification of all required post construction period, including completed operations, Insurance Policies required under this DB Documents.

7.7.3.3 DB Team shall provide GDOT with written notification when DB Team determines it has achieved Final Acceptance. During the fifteen (15) day period following receipt of such notification, DB Team, GDOT shall meet and confer and exchange information on a regular cooperative basis with the goal being GDOT's orderly, timely inspection and review of the Project and the Record Drawings, and GDOT's issuance of a written certificate of Final Acceptance.

7.7.3.4 During such fifteen (15) day period, GDOT shall conduct an inspection of the Punch List items, a review of the Record Drawings and such other investigation as may be

necessary to evaluate whether the conditions to Final Acceptance are satisfied. GDOT shall deliver a written report of findings and recommendations to DB Team following such inspection, review and investigation and in any case by the end of such fifteen (15) day period.

7.7.3.5 Within five (5) days after expiration of such fifteen (15) day period GDOT shall either (a) issue a certificate of Final Acceptance or (b) notify DB Team in writing setting forth, as applicable, why Final Acceptance has not been achieved. If GDOT and DB Team cannot agree as to the date of Final Acceptance, such Dispute shall be resolved according to Article 17.

7.8 Hazardous Materials Management

7.8.1 DB Team shall comply with all requirements set forth in GDOT Standard Specification 107.22 and Exhibit 11.

7.9 Environmental Compliance

Throughout the course of the Design Work and Construction Work, DB Team's Work shall take into account, be coordinated to allow for, and be performed in accordance with all environmental mitigation measures required under the Environmental Document approvals and any other Governmental Approvals for the Project, or under the DB Documents, and shall comply with all other conditions and requirements of the Environmental Approvals in accordance with Section 4 of the Technical Provisions, provided that the foregoing shall not require nor imply any requirement for DB Team to perform any remediation or disposal of Pre-existing Hazardous Materials or GDOT Release(s) of Hazardous Materials.

7.10 Meetings

7.10.1 Meetings

7.10.1.1 DB Team shall conduct regular progress meetings with GDOT at least once a month during the course of Design Work and Construction Work. These meetings shall be attended by the DB Team's Lead Contractor's project manager and the Lead Design Engineer or Authorized Representatives of each and any other Key Personnel as needed for productive use of the meetings.

7.10.1.2 In addition, GDOT and DB Team, through their respective Authorized Representatives, shall meet from time to time at the other Party's request to discuss and resolve matters relating to the Work or the Project.

7.10.1.3 DB Team shall schedule all meetings with GDOT at a date, time and place reasonably convenient to both Parties and, except in the case of urgency, shall provide GDOT with written notice and a meeting agenda at least three (3) Business Days in advance of each meeting.

7.10.1.4 DB Team shall be responsible to document and maintain the full subject matter of all meetings and shall distribute copies of meeting minutes to GDOT not later than five (5) days following such meetings.

7.11 Contractor Warranties and Correction of Non-Conforming and Defective Work

7.11.1 DB Team shall obtain customary and reasonable warranties from all Contractors with respect to design, materials, workmanship, installations, equipment, tools, supplies, software or services, all of which DB Team shall cause to be expressly extended and assigned to GDOT, or its designee; provided that the foregoing requirement shall not apply to standard, pre-specified manufacturer warranties of mass-marketed materials, products (including software products), equipment or supplies where the warranty cannot be extended to GDOT using commercially reasonable efforts. To the extent that any Contractor warranty would be voided by reason of DB Team's negligence in incorporating material or equipment into the Work, DB Team shall be responsible for correcting such defect.

7.11.2 Contractor warranties (if any) are in addition to all rights and remedies available under the DB Documents or applicable Law or in equity, and shall not limit DB Team's liability or responsibility imposed by the DB Documents or applicable Law or in equity with respect to the Work, including liability for design defects, latent construction defects, strict liability, breach, negligence, willful misconduct or fraud.

7.11.3 Reserved.

7.11.4 When any act, omission, or other action of DB Team occurs that violates the requirements, conditions, or terms of the DB Documents, or affects the health, safety, or welfare of the public or natural resources, GDOT shall have the right, but not the obligation, to require and direct DB Team to take prompt action to replace, repair, or restore such damage, injury or condition within a time frame established by GDOT, at DB Team's sole cost and expenses and without entitlement to a Relief Event or Compensation Event.

7.12 Reserved

7.13 Maintenance During Construction Work

7.13.1 GDOT shall be responsible for the operation and maintenance of the Existing Right of Way and any acquired right or interest in any Required Right of Way until the Construction Commencement Date. Upon NTP 3, DB Team shall assume full responsibility for maintenance of all Elements within the Construction Maintenance Limits in accordance with the Construction Maintenance Limits Plan and the requirements of the DB Documents.

7.13.2 Upon Final Acceptance, GDOT will assume responsibility for the operation and maintenance of the entire Project, provided that where GDOT has opened any portion of the Project to the public prior to Final Acceptance, GDOT shall then assume, responsibility for the operations and maintenance of such portions of the Project at such earlier time, provided, however that in all cases, DB Team shall remain responsible for all Work until Final Acceptance and nothing contained herein shall otherwise limit any warranty obligations of DB Team with respect to any Defect or non-conforming Work.

7.14 Reserved

Article 8 SECURITY AND INCIDENT RESPONSE

8.1.1 Security and Incident Response

8.1.1.1 DB Team is responsible for the safety and security of the applicable portion of the Project that is under the control of any DB Team-Related Entity and the workers and public thereon during the performance of the Work.

8.1.1.2 Reserved

8.1.1.3 DB Team shall perform and comply with the provisions of the Technical Provisions concerning Incident Response, safety and security.

Article 9 MANAGEMENT SYSTEMS AND OVERSIGHT

9.1 Project Management

9.1.1 DB Team is responsible for all quality assurance activities necessary to manage the Work, including the Utility Adjustment Work. DB Team shall undertake all required aspects of quality assurance for the Project and Work in accordance with the Contract and Good Industry Practice.

9.1.2 DB Team shall develop the necessary plans and documentation in accordance with the Proposal, Section 2 of the Technical Provisions and Good Industry Practice.

9.1.3 DB Team shall submit to GDOT for acceptance in its good faith discretion in accordance with the procedures described in Article 6.3 of this Agreement and the Technical Provisions each component part, plan and any proposed changes or additions to or revisions of any such component part, plan or other documentation. Each component part, plan and other documentation of the Management Plans or any submittal identified in Section 23 of the Technical Provisions and each proposed change or addition to or revision of any such component part, plan or other documentation shall constitute a separate Submittal for purposes of Article 6.3. GDOT may propose any change required to comply with Good Industry Practice or to reflect a change in working practice to be implemented by DB Team.

9.1.4 DB Team shall not commence or permit the commencement of any aspect of the design or construction before the relevant component parts, plans and other documentation of the Management Plans applicable to such Work have been submitted to and accepted by GDOT.

9.1.5 Reserved.

9.1.6 DB Team shall carry out internal audits of the Management Plans at the times prescribed in the Management Plans.

9.1.7 DB Team shall cause each of its Contractors at every level to comply with the applicable requirements of the DB Documents.

9.1.8 The DB Team shall designate a Quality Manager who shall, irrespective of their other responsibilities, have defined authority for ensuring the establishment and maintenance of the Management Plans and reporting to GDOT on the performance of the Management Plans.

9.2 Traffic Management

9.2.1 Upon GDOT issuance of NTP 3 and throughout construction term of the Project, DB Team shall be responsible for the general management of traffic on the applicable portion of

the Project under the control of any DB Team-Related Entity. DB Team shall manage traffic so as to preserve and protect safety of traffic on such portions and Related Transportation Facilities and, to the maximum extent practicable, to avoid disruption, interruption or other adverse effects on traffic flow, throughput or level of service on the Related Transportation Facilities. DB Team shall conduct and carry out traffic management in accordance with all applicable Technical Provisions, Technical Documents, Laws and Governmental Approvals, and in accordance with the Transportation Management Plan, as well as any directives as may be required pursuant to Article 8.1.1.2.

9.2.2 Reserved

9.2.3 GDOT shall have at all times, without obligation or liability to DB Team, the right to:

9.2.3.1 Issue a Directive Letter to DB Team regarding traffic management and control (with which DB Team shall comply), or directly assume traffic management and control, of the Project during any period that (a) GDOT designates the Project or portion of the Project for immediate use as an emergency evacuation route or a route to respond to a disaster proclaimed by the Governor of Georgia, the President of the United States, or by any other federal or State agency, or any of the aforementioned's respective designees, including reversing the direction of traffic flow during such period, (b) GDOT designates the Project or a portion of the Project for immediate use as an alternate route for diversion of traffic from any interstate or Highway temporarily closed to all lanes in one or both directions due to Incident or Emergency or (c) the Commissioner determines such action will be in the public interest as a result of an emergency or natural disaster; and

9.2.3.2 Provide on the Project, via message signs or other means consistent with Good Industry Practice, non-discriminatory traveler and driver information, and other public information (e.g. amber alerts), provided that the means to disseminate such information does not materially interfere with the Work.

Article 10 CONTRACTING AND LABOR PRACTICES

10.1 Reserved.

10.2 Responsibility for Work, Contractors and Employees

10.2.1 DB Team shall retain or cause to be retained only Contractors that are qualified, experienced and capable in the performance of the portion of the Work assigned. DB Team shall assure that each Contractor has at the time of execution of the Contract, and maintains at all times during performance of the assigned Work, all licenses required by applicable Laws. DB Team shall require all Contractors to adhere to the requirements herein with respect to Subcontractors.

10.2.2 The retention of Contractors by DB Team will not relieve DB Team of its responsibilities hereunder or for the quality of the Work or materials or services provided by it.

10.2.3 Each Contract shall include terms and conditions sufficient to ensure compliance by all Contractors and Subcontractors, all parties performing any Work on behalf thereof, with the requirements of the DB Documents, and shall include those terms that are specifically required by the DB Documents to be included therein, including, to the extent applicable.

10.2.4 Nothing in the DB Documents will create any contractual relationship between GDOT and any Subcontractor. No Contract entered into by or under DB Team shall impose any obligation or liability upon GDOT to any Subcontractor, or any of their respective employees.

10.2.5 DB Team shall supervise and be fully responsible for the actions, omissions, negligence, willful misconduct, or breach of applicable Law or contract by any Contractor or DB Team-Related Entity, or their respective members, officers, directors, partners, and employees, as though DB Team directly employed all such individuals.

10.3 Reserved.

10.4 Key Personnel

10.4.1 DB Team shall retain, employ and utilize the individuals specifically listed in Exhibit 2 to fill the corresponding Key Personnel positions listed therein. DB Team shall not change or substitute any such individuals except due to retirement, death, disability, incapacity, or voluntary or involuntary termination of employment, or as otherwise accepted by GDOT pursuant to Article 10.4.2. In such circumstances, DB Team shall promptly propose a replacement with comparable experience for such position.

10.4.2 DB Team shall notify GDOT in writing of any proposed replacement for any Key Personnel position. GDOT shall have the right to review the qualifications and character of each individual to be appointed to a Key Personnel position (including personnel employed by Contractors to fill any such position) and to accept or disapprove use of such individual in such position prior to the commencement of any Work by such individual. If DB Team fails to provide a proposed replacement that is sufficiently qualified to GDOT within ninety (90) days after notifying GDOT of a proposed replacement for any Key Personnel position, then such failure shall be constitute a DB Team Default pursuant to Article 17.1.1.

10.4.3 DB Team shall cause each individual filling a Key Personnel position to dedicate the full amount of time necessary for the proper prosecution and performance of the Work.

10.4.4 DB Team shall provide GDOT phone numbers and email addresses for all Key Personnel. GDOT requires the ability to contact Key Personnel twenty four (24) hours per day, seven (7) days per week.

10.5 Reserved.

10.6 Labor Standards

10.6.1 In the performance of its obligations under the DB Documents, DB Team at all times shall comply, and require by contract that all Contractors and vendors comply, with all applicable federal and State labor, occupational safety and health standards, rules, regulations and federal and State orders.

10.6.2 All individuals performing the Work shall have the skill and experience and any licenses or certifications required to perform the Work assigned to them.

10.6.3 If any individual employed by DB Team or any Contractor is not performing the Work in a proper, safe and skillful manner, then DB Team shall, or shall cause such Contractor to, remove such individual and such individual shall not be re-employed on the Work. If, after

notice and reasonable opportunity to cure, such individual is not removed or if DB Team fails to ensure that skilled and experienced personnel are furnished for the proper performance of the Work, then GDOT may suspend the affected portion of the Work by delivering to DB Team written notice of such suspension. Such suspension shall in no way relieve DB Team of any obligation contained in the DB Documents or entitle DB Team to any additional compensation or time extension hereunder.

10.6.4 DB Team and its Contractors shall comply with the Georgia Immigration & Compliance Act ("Immigration Act"), O.C.G.A. § 13-10-90, *et seq*. DB Team must certify compliance with the Immigration Act using the form attached as Exhibit 19. The required certificates and affidavits must be filed with GDOT and copies maintained by DB Team and each Contractor as of the Effective Date, recertified as of July 15 of each year, and again recertified upon final completion of the Work under the applicable Contract. State officials, including officials of the Georgia Department of Labor and GDOT, retain the right to inspect and audit the Project and employment records of DB Team and all Contractors without notice during normal working hours until the Work under the applicable Contract is complete, and as otherwise specified by Law.

10.7 Reserved

10.8 Reserved

10.9 Disadvantaged Business Enterprise

10.9.1 General

10.9.1.1 DB Team shall comply with 49 CFR Part 26 and GDOT's Disadvantaged Business Enterprise (DBE) policy and program. The purpose of GDOT's DBE policy and program is to ensure that DBEs shall have an equal opportunity to participate in the performance of contracts financed in whole or in part with federal funds. DB Team shall comply with all applicable requirements set forth in GDOT's DBE policy and program.

10.9.1.2 DB Team shall include provisions to effectuate GDOT's DBE policy and program in every Contract to which it is a party (including purchase orders and task orders for Work), and shall require that they be included in all Contracts at lower tiers (including purchase orders and task orders for Work), so that such provisions will be binding upon each Contractor. The DB Team shall ensure that all contracts and subcontracts (including purchase orders and task orders for Work) with DBEs to supply labor or materials are required to be performed in accordance with 49 CFR Part 26.53.

10.9.1.3

10.9.2 DBE Participation Goals

10.9.2.1 GDOT's overall statewide DBE goal is fifteen percent (15%) of the overall Project design and construction costs.

10.9.2.2 DB Team shall exercise good faith efforts to achieve such DBE participation goal for the Project.

10.9.3 Compliance with DBE Participation Goals

10.9.3.1 DB Team shall not terminate, and shall not allow a Contractor to terminate, a DBE Subcontractor listed in its Proposal (or an approved substitute DBE firm) without GDOT's prior written consent. This includes, but is not limited to, instances in which a Contractor seeks to perform work originally designated for a DBE Subcontractor with its own forces or those of an affiliate, a non-DBE firm, or with another DBE firm.

10.9.3.2 DB Team shall include a provision in every Contract to which it is a party stating that the Contractor shall utilize the specific DBEs listed to perform the work and supply the materials for which each is listed unless the contractor obtains GDOT's consent as provided in 49 CFR Part 26.3(f) and that unless GDOT's consent is provided under 49 CFR Part 26.3(f), the Contractor shall not be entitled to any payment for work or material unless it is performed or supplied by the listed DBE.

10.9.3.3 DB Team shall make available to GDOT upon request a copy of all DBE subcontracts.

10.9.3.4 Before transmitting to GDOT a request to terminate and/or substitute a DBE Subcontractor, the DB Team or Contractor must give notice in writing to the DBE Subcontractor, with a copy to GDOT, of its intent to request to terminate and/or substitute, and the reason for the request. The DB Team or Contractor must give the DBE five days to respond to the notice and advise GDOT and the DB Team or Contractor of the reasons, if any, why it objects to the proposed termination of its subcontract and why GDOT should not approve the termination and/or substitution.

10.9.3.5 GDOT may only provide written consent allowing the DB Team or a Contractor to terminate a DBE firm listed in the Proposal if GDOT agrees that that the DB Team or Contractor has good cause to terminate the DBE firm. For the purposes of 49 CFR Part 26.3(f), good cause includes the following circumstances:

(i) The listed DBE Subcontractor fails or refuses to execute a written contract;

(ii) The listed DBE Subcontractor fails or refuses to perform the work of its subcontract in a way consistent with normal industry standards. Provided, however, that good cause does not exist if the failure or refusal of the DBE Subcontractor to perform its work on the subcontract results from the bad faith or discriminatory action of the DB Team or Contractor;

(iii) The listed DBE Subcontractor fails or refuses to meet the DB Team's or Contractor's reasonable, nondiscriminatory bond requirements.

(iv) The listed DBE Subcontractor becomes bankrupt, insolvent, or exhibits credit unworthiness;

(v) The listed DBE Subcontractor is ineligible to work on public works projects because of suspension and debarment proceedings pursuant 2 CFR Parts 180, 215 and 1,200 or applicable state law;

(vii) GDOT has determined that the listed DBE Subcontractor is not a responsible contractor;

(vi) The listed DBE Subcontractor voluntarily withdraws from the project and provides to you written notice of its withdrawal;

(vii) The listed DBE is ineligible to receive DBE credit for the type of work required;

(viii) A DBE owner dies or becomes disabled with the result that the listed DBE contractor is unable to complete its work on the contract;

(ix) Other documented good cause that GDOT determines compels the termination of the DBE Subcontractor. Provided, that good cause does not exist if the DB Team or Contractor seeks to terminate a DBE it relied upon to obtain the work so that the DB Team or Contractor can self-perform the work for which the DBE contractor was engaged or so that the DB Team or Contractor can substitute another DBE or non-DBE contractor after contract award.

10.9.3.6 When a DBE Subcontractor is terminated as provided above, or fails to complete its work for any reason, DB Team or Contractor is required to make good faith efforts to find another DBE Subcontractor to substitute for the original DBE. These good faith efforts shall be directed at finding another DBE to perform at least the same amount of work under the Contract as the DBE that was terminated, to the extent needed to meet the established DBE participation goal. The good faith efforts shall be documented by the DB Team or Contractor. If GDOT requests documentation of such good faith efforts, , the DB Team or Contractor shall submit the documentation within 7 days, which may be extended for an additional 7 days if necessary at the request of the DB Team or Contractor, and GDOT shall provide a written determination stating whether or not good faith efforts have been demonstrated.

10.10 Job Training Program

10.10.1 DB Team will not be required to provide any on-the-job training for this project.

10.11 Reserved

10.12 Prompt Payment to Contractors and Pay When Paid Provisions

DB Team shall comply with the Georgia Prompt Payment Act, Code Section 13-11-1 *et seq*. Further, neither DB Team, the Design-Build Contractor or Contractor, nor any Subcontractor shall impose retainage upon any consultant, laborer, subcontractor, vendor, materialman, or supplier with whom any of them have contracted.

10.13 Reserved

10.14 Uniforms

Any uniforms, badges, logos and other identification worn by personnel of DB Team-Related Entities shall bear colors, lettering, design or other features to assure clear differentiation from those of GDOT and their employees.

Article 11 RELATED AND OTHER FACILITIES

11.1 Integration with Related Transportation Facilities

11.1.1 The design and construction of the Project, shall satisfy all provisions of the Technical Provisions and Management Plans relating to compatibility, integration and transition with or at Related Transportation Facilities, including those concerning signage, signaling and communications with Users.

11.1.2 Without limiting the foregoing, DB Team shall cooperate and coordinate with GDOT and any third party that owns, constructs, manages, operates or maintains a Related Transportation Project with regard to the construction, maintenance and repair programs and schedules for such Related Transportation Facilities, in order to minimize disruption to the operation thereof.

11.1.3 To assist DB Team, GDOT shall provide to DB Team during normal working hours, reasonable access to plans, surveys, drawings, as-built drawings, specifications, reports and other documents and information in the possession of GDOT or their contractors and consultants pertaining to Related Transportation Facilities. DB Team, at its expense, shall have the right to make copies of the same. DB Team, at its expense, shall conduct such other inspections, investigations, document searches, surveys and other work as may be necessary to achieve compatibility, integration and transition with those Related Transportation Facilities identified in Section 11 of the Technical Provisions.

11.1.4 GDOT shall provide reasonable assistance to DB Team, upon its request and at its expense, in obtaining cooperation and coordination from third parties that own, manage, operate or maintain Related Transportation Facilities and in enforcing rights, remedies and warranties that DB Team may have against any such third parties. Such assistance may include GDOT's participation in meetings and discussions. In no event shall GDOT be required to bring any legal action or proceeding against any such third party.

11.1.5 GDOT shall have at all times, without obligation or liability to DB Team, the right to conduct traffic management activities on GDOT's Related Transportation Facilities and all other facilities of the State transportation network in the area of the Project in accordance with its standard traffic management practices and procedures in effect from time to time.

Article 12 SAFETY COMPLIANCE

12.1 Safety Compliance

12.1.1 Safety Compliance Orders

12.1.1.1 GDOT shall use good faith efforts to inform DB Team at the earliest practicable time of any circumstance or information relating to the Project which in GDOT's reasonable judgment is likely to result in a Safety Compliance Order. Except in the case of Emergency, GDOT shall consult with DB Team prior to issuing a Safety Compliance Order concerning the risk to public or worker safety, alternative compliance measures, cost impacts, and the availability of DB Team resources to fund the Safety Compliance work.

12.1.1.2 GDOT's duties shall include monitoring and inspecting for the purpose of determining whether any circumstances exist that warrant issuance of a Safety Compliance Order with respect to the Design Work and the Construction Work, and giving reports and recommendations to the DB Team with respect thereto.

12.1.1.3 Subject to conducting such prior consultation, GDOT may issue Safety Compliance Orders to DB Team at any time from and after the Effective Date.

12.1.2 Duty to Comply

12.1.2.1 Subject to Article 12.1.1, DB Team shall implement all Safety Compliance as expeditiously as reasonably possible following issuance of the Safety Compliance Order. DB Team shall diligently prosecute the work necessary to achieve such Safety Compliance until completion, subject to any remedies allowed from the occurrence of a Relief Event.

12.1.2.2 DB Team shall perform all work required to implement Safety Compliance at DB Team's sole cost and expense. Without limiting the foregoing and for the avoidance of doubt, in no event shall DB Team be entitled to (a) issue a Change Request, or (b) except as provided in Article 12.1.3, claim that a Compensation Event or Relief Event has occurred or resulted from the existence of a Safety Compliance Order.

12.1.3 Contesting Safety Compliance Orders

DB Team may contest a Safety Compliance Order by delivering to GDOT written notice setting forth (a) DB Team's claim that no Safety Compliance conditions exist to justify the Safety Compliance Order, (b) DB Team's explanation of its claim in reasonable detail and (c) DB Team's estimate of impacts on costs and schedule attributable to the contested Safety Compliance Order. If GDOT does not receive such written notice prior to issuance of a Safety Compliance Order, or within fifteen (15) days after GDOT issues an emergency Safety Compliance Order, then DB Team thereafter shall have no right to contest. If DB Team timely contests a Safety Compliance Order, DB Team nevertheless shall implement the Safety Compliance Order, but if it is finally determined following the procedures set forth in GDOT Standard Specification 105.13 "Claims for Adjustments and Disputes" that Safety Compliance conditions did not exist, then the Safety Compliance Order shall be treated as a Directive Letter for a GDOT Change.

Article 13 RELIEF EVENTS; COMPENSATION EVENTS

13.1 Relief Events

13.1.1 Relief Event Notice

13.1.1.1 If at any time DB Team determines that a Relief Event has occurred or is imminent, DB Team shall promptly, submit a written Relief Event Notice to GDOT.

13.1.1.2 The Relief Event Notice shall include (a) a statement of the Relief Event upon which the claim of delay or inability to perform is based, including its nature, the date of its occurrence and its duration; (b) the effect of the Relief Event on DB Team's ability to perform any of its obligations under the DB Documents, including details of the relevant obligations, an impacted delay analysis indicating all affected activities on any Critical Path (with activity durations, predecessor and successor activities and resources, including Float available pursuant to Article 3.3.5), and the likely duration of that effect; (c) an explanation of the measures that DB Team proposes to undertake to mitigate the delay and other consequences of the Relief Event; and (d) an estimate of the delay in performance of any obligations under the DB Documents attributable to the Relief Event. If a single Relief Event is a continuing cause of delay, only one Relief Event Notice shall be necessary.

13.1.1.3 If, following issuance of any Relief Event Notice, DB Team receives or becomes aware of any further information relating to the Relief Event and/or any delay in performance or failure to perform, it shall submit such further information to GDOT not later than seven (7) days of DB Team's receipt or knowledge, as the case may be. GDOT may request from DB Team any further information that GDOT may reasonably require, and DB Team shall supply the same within a reasonable period after such request.

13.1.1.4 Time is of the essence in DB Team's delivery of its written Relief Event Notice. Accordingly, if for any reason DB Team fails to deliver a Relief Event Notice in strict accordance with this Article 13.1:

(a) Within thirty (30) days following the date (herein the "starting date") on which DB Team first became aware (or should have been aware, using all reasonable due diligence) of the Relief Event, DB Team shall be deemed to have irrevocably and forever waived and released the portion of any Claim or right to relief for adverse effect attributable to the Relief Event accruing after such thirty (30) day deadline and until the date DB Team submits the written Relief Event Notice; and

(b) Within one hundred eighty (180) days following the starting date, DB Team shall be deemed to have irrevocably and forever waived and released any and all Claim or right to relief (including extension of time for performance of Design Work or Construction Work) for any adverse effect attributable to such Relief Event.

13.1.2 Extensions of Time for Relief Events

13.1.2.1 If DB Team complies with the notice and information requirements in this Article 13.1, then within thirty (30) days after receiving the Relief Event Notice (and, if applicable, any required updates thereto) GDOT, acting reasonably, shall issue a Relief Event Determination. GDOT shall specify in the Relief Event Determination (a) the relevant obligations for which relief is given, (b) the period of time that Milestone Schedule Deadlines or periods set forth in the Project Schedule will be extended based on the number of days of delay affecting a Critical Path, after consumption of Float available pursuant to Article 3.3.5, that is directly attributable to the Relief Event and that cannot be avoided through reasonable mitigation measures and (c) if applicable, the period of time, if any, that the Contract Time will be extended. DB Team shall be relieved from the performance of obligations to the extent specified in the Relief Event Determination.

13.1.2.2 DB Team shall not be excused from compliance with applicable Laws, Technical Provisions or Technical Documents due to the occurrence of a Relief Event, except temporary inability to comply as a direct result of a Relief Event.

13.1.2.3 If GDOT is obligated to but does not provide a Relief Event Determination within such thirty (30) day period, DB Team shall have the right to assert a Claim against GDOT for the relevant Relief Event and have such Claim determined according to GDOT Standard Specification 105.13 "Claims for Adjustments and Disputes." Any Dispute regarding the occurrence of a Relief Event, the terms of the Relief Event Determination or waiver of DB Team's Claim or right to relief shall be resolved according to GDOT Standard Specification 105.13 "Claims for Adjustments and Disputes."

13.1.2.4 Without limiting DB Team's rights with respect to monetary relief for Compensation Events as set forth in this Agreement, the extensions of time as provided, if any, pursuant to this Article 13.1 are DB Team's sole remedy for a Relief Event.

13.1.2.5 Except to the extent of a Claim asserted by DB Team pursuant to Article 13.1.2.3 above, a Relief Event Determination shall be deemed to be a Supplement Agreement as set forth pursuant to Article 14.4.

13.2 Compensation Events

13.2.1 Compensation Event Notice

13.2.1.1 Except as otherwise expressly provided in this Agreement, if at any time DB Team determines that a Compensation Event has occurred or is imminent, DB Team shall submit a written Compensation Event Notice to GDOT.

13.2.1.2 The Compensation Event Notice shall identify the Compensation Event and its date of occurrence in reasonable detail, describe DB Team's current estimate of the anticipated adverse and beneficial effects of the Compensation Event, and include written analysis and calculation of DB Team's current estimate of the estimated increase or decrease in costs, to the extent applicable to the Compensation Event.

13.2.1.3 If, following issuance of any Compensation Event Notice, DB Team receives or becomes aware of any further information relating to the Compensation Event, it shall submit such further information to GDOT not later than seven (7) days of DB Team's receipt or knowledge, as the case may be. GDOT may request from DB Team any further information that GDOT may reasonably require, and DB Team shall supply the same within a reasonable period after such request.

13.2.1.4 Time is of the essence in DB Team's delivery of its written Compensation Event Notice. Accordingly, if for any reason DB Team fails to deliver such written Compensation Event Notice in strict accordance with this Article 13.2:

(a) Within thirty (30) days following the date (herein the "starting date") on which DB Team first became aware (or should have been aware, using all reasonable due diligence) of the occurrence of such Compensation Event, DB Team shall be deemed to have irrevocably and forever waived and released the portion of any Claim or right to compensation for costs attributable to such Compensation Event accruing after such thirty (30) day deadline and until the date DB Team submits the written Compensation Event Notice; and

(b) Within one hundred eighty (180) days following the starting date, DB Team shall be deemed to have irrevocably and forever waived and released any and all Claim or right to compensation for any costs attributable to such Compensation Event.

13.2.2 If DB Team complies with the notice and information requirements in this Article 13.2, GDOT shall, acting reasonably, meet with DB Team within sixty (60) days of receipt of Compensation Event Notice and commence good faith negotiations to determine the Compensation Amount, if any, to which DB Team is entitled. If DB Team stands ready to commence good faith negotiations to determine the Compensation Amount within the foregoing time period but for any reason GDOT does not commence to engage therein within the foregoing time period, then, subject to compliance with the notice and information requirements in

Article 13.2.1.1 and Article 13.2.1.3, DB Team shall have the right to assert a Claim against GDOT for the relevant Compensation Amount (if any) and have such Claim determined according to GDOT Standard Specification 105.13 "Claims for Adjustments and Disputes."

13.2.3 The Compensation Amount, if any, shall be determined by applying the following provisions.

13.2.3.1 Cost impacts shall:

(a) Exclude (i) third-party entertainment costs, lobbying and political activity costs, costs of alcoholic beverages, costs for first class travel in excess of prevailing economy travel costs, and costs of club memberships, in each case to the extent that such costs would not be reimbursed to an employee of GDOT in the regular course of business, and (ii) unallowable costs under the following provisions of the federal Contract Cost Principles, 48 CFR 31.205: 31.205-8 (contributions or donations), 31.205-13 (employee morale, health, welfare, food service, and dormitory costs and credits), 31.205-14 (entertainment costs), 31.205-15 (fines, penalties, and mischarging costs), 31.205-27 (organization costs), 31.205-34 (recruitment costs), 31.205-35 (relocation costs), 31.205-43 (trade, business, technical and professional activity costs), 31.205-44 (training and education costs), and 31.205-47 (costs related to legal and other proceedings);

(b) Exclude amounts paid or to be paid to Affiliates in excess of the pricing DB Team could reasonably obtain in an arms' length, competitive transaction with an unaffiliated Contractor;

(c) Exclude those costs incurred in asserting, pursuing or enforcing any Claim or Dispute;

(d) Take into account any savings in costs resulting from the Compensation Event;

(e) Be subject to DB Team's obligation to mitigate cost increases and augment cost decreases in accordance with this Article 13.2;

(f) Shall not include any impact costs for delay for the sixty (60) cumulative days of delay due to interference or work of Separate Contractors engaged by GDOT or any other Governmental Entity with respect to the Project; and

(g) Be consistent and not exceed such amounts as set forth in the Technical Provisions.

13.2.3.2 In all cases the Compensation Amount shall be net of all insurance available to DB Team, or deemed to be self-insured by DB Team under Article 16, with respect to cost or revenue impacts of the Compensation Event.

13.2.3.3 The Compensation Amount shall not include any amount on account of federal, State, or local income taxes. Further and notwithstanding anything to the contrary herein, the Compensation Amount shall not include, under any circumstances, costs incurred by DB Team or any Contractors on account of charges or expenses due to (a) the business organization existence or maintenance of its business of any DB Team-Related Party or (b) labor or employment matters as a result of any Change in Law.

13.2.4 If the Compensation Event is under clause (j) of the definition of Compensation Event, then the Compensation Amount shall be limited to the incremental increase in costs of initial design and construction due to delay and disruption directly attributable to the court order.

13.2.5 DB Team shall share with GDOT all data, documents and information pertaining to bids for any work that is the subject of a Compensation Amount, and all of the aforementioned shall be on an Open Book Basis.

13.2.6 If GDOT and DB Team are unable to agree on the Compensation Amount within thirty (30) days after commencing good faith negotiations, or if DB Team asserts a Claim against GDOT for the Compensation Amount as provided in this Article 13.2, GDOT shall prepare a good faith estimate of the Compensation Amount, and shall pay the full undisputed portion of the Compensation Amount to DB Team within thirty (30) days, or any other arrangement as the parties may mutually agree upon. Any Dispute regarding occurrence of a Compensation Event, determination of the Compensation Amount or waiver of DB Team's Claim or right to compensation shall be resolved according to GDOT Standard Specification 105.13 "Claims for Adjustments and Disputes."

13.2.7 Following a determination of the Compensation Amount by mutual agreement or GDOT Standard Specification 105.13 "Claims for Adjustments and Disputes," GDOT shall pay such Compensation Amount (a) through periodic payments of the Compensation Amount in accordance with a written payment schedule determined by mutual agreement or through GDOT Standard Specification 105.13 "Claims for Adjustments and Disputes." corresponding to when the cost impacts that make up the Compensation Amount are anticipated to occur, (b) in a lump sum, payable as determined by mutual agreement or through GDOT Standard Specification 105.13 "Claims for Adjustments and Disputes," or (c) in such other manner as agreed upon by the Parties. GDOT, in its sole discretion, shall be entitled to select one or any combination of the foregoing methods of compensation, subject to the following terms and conditions.

13.2.8 Without limiting DB Team's rights with respect to non-monetary relief for Relief Events as set forth in this Agreement, the Compensation Amount shall represent the sole right to compensation and damages for the adverse financial effects of a Compensation Event. As a condition precedent to GDOT's obligation to pay any portion of the Compensation Amount, DB Team shall execute a full, unconditional, irrevocable release, in form reasonably acceptable to GDOT, of any Claims, Losses or other rights to compensation or other monetary relief associated with such Compensation Event, except for the Claim and right to the subject Compensation Amount, DB Team's right to non-monetary relief for a Relief Event, and the right to terminate this Agreement in accordance with Article 19.4 and to receive any applicable Termination Compensation.

13.2.9 Except to the extent of a Claim asserted by DB Team pursuant to Section 13.2.6 above, a Compensation Event Determination shall be deemed to be a Supplement Agreement as set forth pursuant to Article 14.4.

13.3 Mitigation

DB Team shall take all steps reasonably necessary to mitigate the consequences of any Relief Event or Compensation Event, including all steps that would generally be taken in accordance with Good Industry Practice.

Article 14 GDOT CHANGES; DB TEAM CHANGES; DIRECTIVE LETTERS

This Article 14 sets forth the requirements for obtaining all Supplemental Agreements under this Agreement. DB Team hereby acknowledges and agrees that the DB Contract Sum is full and adequate compensation for performance of all of the Work, subject only to those exceptions specified in Article 13 and this Article 14 DB Team unconditionally and irrevocably waives the right to any claim for any monetary compensation or other relief in addition to that specifically provided under the terms of this Agreement, except in accordance with Article 13 and this Article 14. The foregoing waiver encompasses all theories of liability, whether in contract, tort (including negligence), equity, quantum meruit or otherwise, and encompasses all theories to extinguish contractual obligations, including impracticability, mutual mistake and frustration of purpose. Nothing in the Technical Provisions or Technical Documents shall have the intent or effect or shall be construed to create any right of DB Team to any Supplemental Agreement or other Claim for additional monetary compensation or other relief, any provision in the Technical Provisions or Technical Documents to the contrary notwithstanding.

14.1 GDOT Changes

14.1.1 GDOT's Right to Issue a Supplemental Agreement and Directive Letter

GDOT may, at any time and from time to time, without notice to any Surety, authorize, cause and/or require, pursuant to a Supplemental Agreement or Directive Letter, changes in the Work, including additions or deletions, or in terms and conditions of the Technical Provisions or Technical Documents (including changes in the standards applicable to the Work).

14.1.2 Request for Change Proposal

14.1.2.1 If GDOT desires to initiate a GDOT Change or to evaluate whether to initiate such a change, then GDOT may, at its discretion, issue a Request for Change Proposal. The Request for Change Proposal shall set forth the nature, extent and details of the proposed GDOT Change.

14.1.2.2 Within five (5) Business Days after DB Team receives a Request for Change Proposal, or such longer period to which the Parties may mutually agree, GDOT and DB Team shall consult to define the proposed scope of the change. Within five (5) Business Days after the initial consultation, or such longer period to which the Parties may mutually agree, GDOT and DB Team shall consult concerning the estimated financial and schedule impacts.

14.1.3 Within thirty (30) days following GDOT's delivery to DB Team of the Request for Change Proposal, DB Team shall provide GDOT with a written response as to whether, in DB Team's opinion, the proposed change constitutes a GDOT Change, will impact DB Team's costs and/or will impact DB Team's schedule, and if so, a detailed assessment of the cost and schedule impact of the proposed GDOT Change, including the following:

14.1.3.1 DB Team's detailed estimate of the impacts on costs of carrying out the proposed GDOT Change;

14.1.3.2 The effect of the proposed GDOT Change on the Project Schedule, including achievement of the Milestone Schedule Deadlines, taking into consideration DB Team's duty to mitigate any delay to the extent reasonably practicable; and

14.1.3.3 Any other relevant information related to carrying out the proposed GDOT Change.

14.1.4 GDOT shall be entitled, but not required, to obtain, from a qualified independent consultant of GDOT's choosing, a report prepared in accordance with Good Industry Practice as to the proposed GDOT Change related to the Design Work or the Construction Work, including recommendations and comments concerning DB Team's estimate of the cost impacts and projected impact on the Project Schedule and Milestone Schedule Deadlines. GDOT shall pay for the work of any such consultant.

14.1.5 GDOT and DB Team, giving due consideration to any such report and study as may be commissioned by GDOT, shall exercise good faith efforts to negotiate a mutually acceptable Supplemental Agreement, including adjustment of the Project Schedule and Milestone Schedule Deadlines, any Compensation Amount to which DB Team is entitled, and the timing and method for payment of any Compensation Amount, in accordance with Article 13.2.

14.1.6 If GDOT and DB Team are unable to reach agreement on a Supplemental Agreement, GDOT may, in its sole discretion, deliver to DB Team a Directive Letter pursuant to Article 14.3.1 directing DB Team to proceed with the performance of the Work in question notwithstanding such disagreement. Upon receipt of such Directive Letter, pending final resolution of the relevant Supplemental Agreement according to procedures set forth in GDOT Standard Specification 105.13 "Claims for Adjustments and Disputes," (a) DB Team shall implement and perform the Work in question as directed by GDOT and (b) GDOT will make interim payment(s) to DB Team on a monthly basis for the reasonable documented costs of the Work in question subject to subsequent adjustment through the procedures set forth in GDOT Standard Specification 105.13 "Claims for Adjustments and Disputes."

14.1.7 GDOT shall be responsible for payment of the Compensation Amount agreed upon or determined through GDOT Standard Specification 105.13 "Claims for Adjustments and Disputes," through one of the payment mechanisms set forth in Article 13.2.7, and the Project Schedule and Milestone Schedule Deadlines shall be adjusted as agreed upon or determined through GDOT Standard Specification 105.13 "Claims for Adjustments and Disputes," and in accordance with Article 13.1, to reflect the effects of the Supplemental Agreement.

14.2 DB Team Changes

14.2.1 DB Team may request GDOT to accept modifications to the Technical Provisions or Technical Documents by submittal of a written Change Request using a form accepted by GDOT. The Change Request shall set forth DB Team's detailed estimate of impacts on costs and schedule attributable to the requested change.

14.2.2 GDOT, in its sole discretion, may accept or reject any Change Request proposed by DB Team, provided that GDOT will accept a Change Request necessary to bring the Technical Provisions or Technical Documents into compliance with applicable Law. GDOT may condition its acceptance on new or a modification of compensation for GDOT under this Agreement in order to benefit equally in the estimated net cost savings and revenue benefit, if any, attributable to the proposed change. If GDOT accepts such change, DB Team shall execute a Supplemental Agreement and shall implement such change in accordance with the

Supplemental Agreement, applicable Technical Provisions, Technical Documents, the Management Plans, Good Industry Practice, and all applicable Laws.

14.2.3 DB Team shall be solely responsible for payment of any increased costs and for any Project Schedule delays or other impacts resulting from a DB Team proposed Change Request, other than on account of a Compensation Event or Relief Event accepted by GDOT. If the Change Request results in a decrease in the costs of designing, constructing or operating the Project, the savings in costs shall be allocated between DB Team and GDOT as set forth in the Supplemental Agreement.

14.2.4 DB Team may implement and permit a Utility Owner to implement, without a Change Request or Supplemental Agreement, changes to a Utility Adjustment design that do not vary from the Technical Provisions or Technical Documents, but such changes are subject either to GDOT's acceptance as part of a Utility Work Plan as provided in Section 6.3.4 of the Technical Provisions.

14.2.5 No Change Request shall be required to implement any change to the Work that is not specifically regulated or addressed by the DB Documents or applicable Law.

14.2.6 Certain minor changes without significant cost savings or revenue benefits may be accepted in writing by GDOT, and in such event shall not require a Supplemental Agreement. Any other change in the requirements of the DB Documents shall require a Supplemental Agreement.

14.3 Directive Letters

14.3.1 GDOT may at any time issue a Directive Letter to DB Team regarding any matter for which a Supplemental Agreement can be issued or in the event of any Dispute regarding the scope of the Work or whether DB Team has performed in accordance with the requirements of the DB Documents. The Directive Letter will state that it is issued under this Article 14.3, will describe the Work in question and will state the basis for determining compensation, if any. Subject to Article 14.1.6, DB Team shall proceed immediately as directed in the letter, pending the execution of a formal Supplemental Agreement (or, if the letter states that the Work is within DB Team's original scope of Work or is necessary to comply with the requirements of the DB Documents, DB Team shall proceed with the Work as directed but shall have the right to assert a Claim that a GDOT Change has occurred).

14.3.2 The fact that a Directive Letter was issued by GDOT shall not be considered evidence that in fact a GDOT Change occurred. The determination whether a GDOT Change in fact occurred shall be based on an analysis of the original requirements of the DB Documents and a determination as to whether the Directive Letter in fact constituted a change in those requirements.

14.4 Final Relief Event And Compensation Event Determinations

14.4.1 Any final Relief Event Determination and/or final Compensation Event Determination that has been mutually accepted by GDOT and DB Team shall be set forth in a Supplemental Agreement. Such Supplemental Agreement shall provide for modification of the Contract Time and the Project Schedule, including to the extent so established by such Relief Event Determination, the Milestone Schedule Deadlines, and modification of the DB Contract Sum pursuant to any such Compensation Event Determination, as the case may be.

14.5 Reserved

Article 15 REPRESENTATIONS AND COVENANTS

15.1 DB Team Representations and Covenants

DB Team hereby represents to and covenants with GDOT as follows:

15.1.1 During all periods necessary for the performance of the Work, DB Team and its Contractor(s) will maintain all required authority, license status, professional ability, skills and capacity to perform the Work.

15.1.2 As of the Effective Date, DB Team has evaluated the constraints affecting design and construction of the Project, including the Property, the Existing Right of Way and Required Right of Way limits as well as the conditions of the Environmental Documents, and has reasonable grounds for believing and does believe that the Project can be designed and built within such constraints.

15.1.3 Except as to parcels that GDOT lacked title or access to prior to the Effective Date, DB Team, in accordance with Good Industry Practice and the requirements of the DB Documents, shall have examined the Site and surrounding locations, performed appropriate field studies and geotechnical investigations of the Site, investigated and reviewed available public and private records, and undertook other activities sufficient to familiarize itself with surface conditions and subsurface conditions, including the presence of Utilities, Hazardous Materials, contaminated groundwater, archeological, paleontological and cultural resources, and Threatened or Endangered Species, affecting the Site or surrounding locations; and as a result of such review, inspection, examination and other activities DB Team is familiar with and accepts the physical requirements of the Work, subject to GDOT's obligations regarding Hazardous Materials under Article 7.8 and Exhibit 11 and DB Team's rights to seek relief under Article 13 .

15.1.4 DB Team has familiarized itself with the requirements of any and all applicable Laws, including with limitation O.C.G.A. §48-13-30, et. seq., and the conditions of any required Governmental Approvals prior to entering into this Agreement. Except as specifically permitted under Article 13 or Article 14, DB Team shall be responsible for complying with the foregoing at its sole cost and without any additional compensation or time extension on account of such compliance, regardless of whether such compliance would require additional time for performance or additional labor, equipment and/or materials not expressly provided for in the DB Documents. As of the Effective Date, DB Team has no reason to believe that any Governmental Approval required to be obtained by DB Team will not be granted in due course and thereafter remain in effect so as to enable the Work to proceed in accordance with the DB Documents.

15.1.5 All Work furnished by DB Team will be performed by or under the supervision of Persons who hold all necessary, valid licenses to practice in the State, by personnel who are skilled, experienced and competent in their respective trades or professions, who are professionally qualified to perform the Work in accordance with the DB Documents and who shall assume professional responsibility for the accuracy and completeness of the Design Documents, Construction Documents and other documents prepared or checked by them.

15.1.6 As of the Effective Date, DB Team is a _____ duly organized and validly existing under the laws of _____ ***[Note: Information to be provided with execution version],*** has the requisite power and all required licenses to carry on its present

and proposed activities, and has full power, right and authority to execute and deliver the DB Documents, Principal Project Documents as and to the extent applicable, and to perform each and all of the obligations of DB Team provided for herein and therein. DB Team is duly qualified to do business, and is in good standing, in the State as of the Effective Date, and will remain duly qualified and in good standing throughout the term of this Agreement and for as long thereafter as any obligations remain outstanding under the DB Documents.

15.1.7 The execution, delivery and performance of the DB Documents, and all other Principal Project Documents to which DB Team is (or will be) a party have been (or will be) duly authorized by all necessary corporate action of DB Team; each Person executing the DB Documents and all other such Project related documents, on behalf of DB Team has been (or at the time of execution will be) duly authorized to execute and deliver each such document on behalf of DB Team; and the DB Documents, and all such other Project related documents have been (or will be) duly executed and delivered by DB Team.

15.1.8 Neither the execution and delivery by DB Team of the DB Documents and the Principal Project Documents to which DB Team is (or will be) a party, nor the consummation of the transactions contemplated hereby or thereby, is (or at the time of execution will be) in conflict with or has resulted or will result in a default under or a violation of the governing instruments of DB Team.

15.1.9 As of the Effective Date, each of the DB Documents, the Principal Project Documents to which DB Team is (or will be) a party constitutes (or at the time of execution and delivery will constitute) the legal, valid and binding obligation of DB Team, enforceable against DB Team and, if applicable, each member of DB Team, in accordance with its terms, subject only to applicable bankruptcy, insolvency and similar laws affecting the enforceability of the rights of creditors generally and the general principles of equity.

15.1.10 As of the Effective Date, there is no action, suit, proceeding, investigation or litigation pending and served on DB Team which challenges DB Team's authority to execute, deliver or perform, or the validity or enforceability of, the DB Documents, and all other Project related documents to which DB Team is a party, or which challenges the authority of DB Team official executing the DB Documents, or the Principal Project Documents. DB Team has disclosed to GDOT prior to the Effective Date any pending and un-served or threatened action, suit, proceeding, investigation or litigation with respect to such matters of which DB Team is aware.

15.1.11 As of the Proposal Due Date, DB Team disclosed to GDOT in writing all organizational conflicts of interest of DB Team and its Contractors of which DB Team was actually aware; and between the Proposal Due Date and the Effective Date, DB Team has not obtained knowledge of any additional organizational conflict of interest, and there have been no organizational changes to DB Team or its Contractors identified in its Proposal, which have not been accepted in writing by GDOT. For this purpose, organizational conflict of interest has the meaning set forth in Chapter I of the RFP (Instructions to Proposers).

15.1.12 To the extent the Design-Build Contractor is not the DB Team, DB Team represents and warrants, as of the effective date of the Design-Build Contract, as follows: (a) the Design-Build Contractor is duly organized, validly existing and in good standing under the laws of the state of its organization; (b) with respect to Persons that individually hold more than ten percent (10%) of the capital stock of the Design-Build Contractor (including options, warrants

and other rights to acquire capital stock), such stock is owned by the Persons whom DB Team has set forth in a written certification delivered to GDOT prior to the Effective Date; (c) the Design-Build Contractor has the power and authority to do all acts and things and execute and deliver all other documents as are required to be done, observed or performed by it in connection with its engagement by DB Team; (d) the Design-Build Contractor has all necessary expertise, qualifications, experience, competence, skills and know-how to perform the design and construction of the Project in accordance with the DB Documents; and (e) the Design-Build Contractor is not in breach of any applicable Law that would have a material adverse effect on the design and construction of the Project.

15.1.13 The execution and delivery by DB Team of this Agreement and all other Project related documents to which DB Team is a party will not result, at the time of execution, in a default under any other agreement or instrument to which it is a party or by which it is bound.

15.1.14 The execution and delivery by DB Team of the DB Documents and performance by DB Team of its obligations thereunder will not conflict with any Laws applicable to DB Team that are valid and in effect on the Effective Date.

15.1.15 The Design-Build Contractor shall comply in full with the provisions of Code Sections 50-24-1 through 50-24-6 of the Official Code of Georgia Annotated, relating to the "Drug-free Workplace Act"

15.2 GDOT Representations and Covenants

GDOT hereby represents to and covenants with DB Team as follows:

15.2.1 As of the Effective Date, GDOT has full power, right and authority to execute, deliver and perform the DB Documents and the Principal Project Documents to which GDOT is a party and to perform each and all of the obligations of GDOT provided for herein and therein.

15.2.2 As of the Effective Date, each of the DB Documents and the Principal Project Documents to which GDOT is (or will be) a party constitutes (or at the time of execution and delivery will constitute) the legal, valid and binding obligation of GDOT, enforceable against GDOT in accordance with its terms, subject only to applicable bankruptcy, insolvency and similar laws affecting the enforceability of the rights of creditors generally and the general principles of equity.

15.2.3 The execution and delivery by GDOT of this Agreement and the Principal Project Documents to which GDOT is a party will not result, at the time of execution, in a default under any other agreement or instrument to which it is a party or by which it is bound.

15.2.4 The execution and delivery by GDOT of the DB Documents and performance by GDOT of its obligations thereunder will not conflict with any Laws applicable to GDOT that are valid and in effect on the Effective Date.

15.3 Survival of Representations and Covenants

The representations and covenants of DB Team and GDOT contained herein shall survive expiration or earlier termination of this Agreement.

15.4 Special Remedies for Mutual Breach of Representations and Covenants

Notwithstanding any other provision of this Agreement, if there exists or occurs any circumstance or event that constitutes or results in a concurrent breach of any of the representations or covenants set forth in this Article 15 by both DB Team and GDOT but does not also constitute or result in any other breach or default by either Party, then such breaches shall not form the basis for a Compensation Event or damage claim by GDOT against DB Team. Instead, the only remedies shall be for the Parties to take action to rectify or mitigate the effects of such circumstance or event, to pursue severance and reformation of the DB Documents and Principal Project Documents as set forth in Article 24.13, or Termination by Court Ruling as set forth in Article 19.11 and Exhibit 20.

Article 16 INSURANCE; PERFORMANCE SECURITY; INDEMNITY

16.1 Insurance

16.1.1 Insurance Policies and Coverage

16.1.1.1 In addition to the insurance requirements covered elsewhere, provide insurance coverage of the following types and amounts:

(a) Valuable Papers: Insurance in an amount sufficient to assure the restoration of any plans, drawings, field notes or other similar data relating to the work covered by the Project is required. Insurance is to be maintained in full force and effect during the life of this Agreement.

(b) Professional Liability (Errors and Omissions): Insurance in an amount not less than one million dollars ($1,000,000) per claim (with a maximum of two hundred and fifty thousand dollars ($250,000) deductible per claim) during the agreement term and for a period of at least five (5) years after this Agreement is closed is required. Such a policy is to cover all of the DB Team's professional liabilities, whether occasioned by the DB Team, his employees, subcontractors or other agents, arising out of services performed under or in accordance with this Agreement. DB Team and each Subcontractor may satisfy such insurance requirements via either a series of annual practice policies or a project-specific policy covering the period of design and construction and remain in effect for five (5) years thereafter.

(c) This form should be submitted to the Department along with the Contract at the Post Award meeting.

16.2 Performance and Payment Security

DB Team shall furnish, either P&P Bonds meeting the requirements of this Article 16.2 as performance and payment security for the Work.

16.2.1 P&P Bonds

16.2.1.1 The DB Team shall furnish, or cause the furnishing of, P&P Bonds, DB Team shall obtain and deliver P&P Bonds in such amount as required pursuant to the terms set forth in the Standard Specification Section 103.05, identifying DB Team as the P&P Obligor, securing DB Team's obligations to perform the Work and to ensure that payments owing to Claimants are made with respect to such Work.

16.2.1.2 The P&P Bonds shall be issued by a properly licensed and U.S. Treasury listed surety(ies) that have not less than A or better and Class VIII by A.M. Best and Company's Insurance Reports Key Rating Guide, and listed on Treasury Department Circular 570, and be on the list of companies approved by the State for at least three of the last five (5) years from the date of the proposed bond issuance. If P&P Bonds are issued by more than one surety, such P&P Bonds shall be executed on a joint and several basis.

16.2.2 Reserved

16.2.3 Reserved.

16.3 Reserved

16.4 Reserved

16.5 Indemnity by DB Team

16.5.1 Subject to Article 16.5.2, DB Team shall release, protect, defend, indemnify and hold harmless the Indemnified Parties from and against any and all Third Party Claims and Third Party Losses arising out of, relating to or resulting from:

16.5.1.1 The breach or alleged breach of the DB Documents by DB Team;

16.5.1.2 The failure or alleged failure by any DB Team-Related Entity to comply with the Governmental Approvals, any applicable Environmental Laws or other Laws (including Laws regarding Hazardous Materials Management);

16.5.1.3 Any alleged patent or copyright infringement or other allegedly improper appropriation or use by any DB Team-Related Entity of trade secrets, patents, proprietary information, know-how, copyright rights or inventions in performance of the Work, or arising out of any use in connection with the Project of methods, processes, designs, information, or other items furnished or communicated to GDOT or another Indemnified Party pursuant to the DB Documents; provided that this indemnity shall not apply to any infringement resulting from GDOT's failure to comply with specific written instructions regarding use provided to GDOT by DB Team;

16.5.1.4 The actual or alleged culpable act or omission, culpable error or misconduct of any DB Team-Related Entity in or associated with performance of the Work;

16.5.1.5 Any and all claims by any governmental or taxing authority claiming taxes based on gross receipts, purchases or sales, the use of any property or income of any DB Team-Related Entity with respect to any payment for the Work made to or earned by any DB Team-Related Entity;

16.5.1.6 Any and all stop notices, liens and claims filed in connection with the Work, including all expenses and attorneys', accountants' and expert witness fees and costs incurred in discharging any stop notice, lien or claim, and any other liability to Contractors, laborers and Suppliers for failure to pay sums due for their work, services, materials, goods, equipment or supplies, including interest and attorney's fees, provided that GDOT is not in default in payments owing (if any) to DB Team with respect to such Work;

16.5.1.7 Any actual or threatened DB Team Release of Hazardous Materials;

16.5.1.8 The claim or assertion by any other developer or contractor that any DB Team-Related Entity interfered with or hindered the progress or completion of work being performed by the other contractor or developer, or failed to cooperate reasonably with the other developer or contractor, so as to cause inconvenience, disruption, delay or loss, except where the DB Team-Related Entity was not in any manner engaged in the management, prosecution, protection or performance of the Work;

16.5.1.9 Any dispute or claim by a Utility Owner related to any DB Team-Related Entity's performance of, or failure to perform, the obligations under any Standard Utility Agreement;

16.5.1.10 (a) Any DB Team breach of or failure to perform an obligation that GDOT owes to a third Person, including, but not limited to, Governmental Entities, under Law or under any agreement between GDOT and a third Person, where GDOT has delegated performance of the obligation to DB Team pursuant to the terms of the DB Documents, or (b) the negligent or willful acts or omissions of any DB Team-Related Entities which render GDOT unable to perform or abide by an obligation that GDOT owes to a third Person, including, but not limited to, Governmental Entities, under any agreement between GDOT and a third Person, where the agreement is previously disclosed or known to DB Team;

16.5.1.11 The fraud, bad faith, arbitrary or capricious acts, willful misconduct, negligence or violation of Law or contract by DB Team or Design-Build Contractor or any Affiliate of either in connection with DB Team's performance of real property acquisition services under the DB Documents;

16.5.1.12 Inverse condemnation, trespass, nuisance, interference with use and enjoyment of property or similar taking of or harm to real property by reason of (a) the failure of any DB Team-Related Entity to comply with Good Industry Practice, requirements of the DB Documents, Management Plans or Governmental Approvals, (b) the intentional misconduct or negligence of any DB Team-Related Entity, or (c) the entry onto or encroachment upon another's property by any DB Team-Related Entity;

16.5.1.13 If applicable, any violation of any federal or state securities or similar law by any DB Team-Related Entity;

16.5.1.14 Errors, inconsistencies or other defects in the design or construction of the Project and/or of Utility Adjustments, or the Work, included in the Design Work and/or Construction Work; or

16.5.1.15 Any claim asserted or alleged against GDOT in contradiction of Article 6.3.12.

16.5.2 Subject to the releases and disclaimers herein, including all the provisions set forth in Article 6.3.8, DB Team's indemnity obligation shall not extend to any Third Party Claims and Third Party Losses to the extent caused or contributed to by:

16.5.2.1 The sole negligence, recklessness or willful misconduct, bad faith or fraud of the Indemnified Party;

16.5.2.2 GDOT's breach of any of obligations under the DB Documents, subject to Article 6.3.12;

16.5.2.3 An Indemnified Party's violation of any Laws or Governmental Approvals; or

16.5.2.4 Any material defect inherent in a prescriptive design, or construction specification included in the DB Documents that was not drafted or provided by DB Team under this Agreement, but only where prior to occurrence of the Third Party Loss DB Team complied with such specification and did not actually know, or would not reasonably have known, while exercising reasonable diligence, that it was deficient or, if DB Team actually knew of the deficiency, unsuccessfully sought GDOT's waiver or acceptance of a Change Request from such specification.

16.5.3 In claims by an employee of DB Team, a Contractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, the indemnification obligation under this Article 16.5 shall not be limited by a limitation on the amount or type of damages, compensation or benefits payable by or for DB Team or a Contractor under workers' compensation, disability benefit or other employee benefits laws.

16.5.4 For purposes of this Article 16.5, "Third Party Claim" includes a claim, dispute, disagreement, cause of action, demand, suit, action, judgment, investigation, or legal or administrative proceeding which (a) is asserted, initiated or brought by any Indemnified Party's employee, agent or contractor against an Indemnified Party, (b) is within the scope of the indemnities and (c) is not covered by the Indemnified Party's worker's compensation program. For purposes of this Article 16.5, "Third Party Loss" includes any actual or alleged Loss sustained or incurred by such employee, agent or contractor.

16.6 Defense and Indemnification Procedures

16.6.1 If any of the Indemnified Parties receives notice of a claim that it believes is within the scope of the indemnities under Article 16.5, GDOT shall by writing as soon as practicable after receipt of the claim, (a) inform DB Team of the claim, (b) send to DB Team a copy of all written materials GDOT has received asserting such claim and (c) notify DB Team that should no insurer accept defense of the claim, the Indemnified Party will conduct its own defense unless DB Team accepts the tender of the claim in accordance with Article 16.6.3. As soon as practicable after DB Team receives notice of a claim or otherwise has actual knowledge of a claim, it shall tender the claim in writing to the insurers under all potentially applicable Insurance Policies and comply with all notice requirements contained in such Insurance Policies. GDOT and other Indemnified Parties also shall have the right to tender such claims to such insurers.

16.6.2 Subject to Article 16.6.4, if the insurer under any applicable Insurance Policy accepts the tender of defense, GDOT and DB Team shall cooperate in the defense as required by the Insurance Policy. If no insurer under potentially applicable Insurance Policies provides defense, then Article 16.6.3 shall apply.

16.6.3 If the defense is tendered to DB Team, then within thirty (30) days after receipt of the tender it shall notify the Indemnified Party whether it has tendered the matter to an insurer and (if not tendered to an insurer or if the insurer has rejected the tender) shall deliver a written notice stating that DB Team:

16.6.3.1 Accepts the tender of defense and confirms that the claim is subject to full indemnification hereunder without any "reservation of rights" to deny or disclaim full indemnification thereafter;

16.6.3.2 Accepts the tender of defense but with a "reservation of rights" in whole or in part, with a detailed statement as to the reasons for the "reservation of rights"; or

16.6.3.3 Rejects the tender of defense based on a determination that it is not required to indemnify against the claim under the terms of this Agreement, with a detailed statement as to the reasons for the denial.

16.6.4 If DB Team accepts the tender of defense under Article 16.6.3.1, DB Team acknowledges and agrees (and has caused the insurer to be so notified of the statutory requirements) that the Attorney General of the State shall represent and defend the State, GDOT and any officer, director, commissioner or employee of such Indemnified Parties; but GDOT will request that the Attorney General of the State, without limiting the authority of the Attorney General of the State, consider attorneys recommended by DB Team for appointment as Special Assistant Attorney General to represent and defend the referenced Indemnified Parties. DB Team may, at the option of the Attorney General, have the right to participate in the defense of the Indemnified Parties. In the event of litigation, any settlement on behalf of the Indemnified Parties must be expressly approved by the Attorney General of the State. The foregoing shall not relieve DB Team's obligation to bear the fees and costs of defending and settling such claim. During such defense:

16.6.4.1 DB Team shall fully and regularly inform the Indemnified Party and the Attorney General of the State of the progress of the defense and of any settlement discussions; and

16.6.4.2 Each Indemnified Party shall fully cooperate in said defense, provide to DB Team all materials and access to personnel it requests as necessary for defense, preparation and trial and which or who are under the control of or reasonably available to the Indemnified Party, and maintain the confidentiality of all communications between it and DB Team concerning such defense.

16.6.5 If DB Team responds to the tender of defense as specified in Article 16.6.3.2 or Article 16.6.3.3, such Indemnified Parties shall also be represented by the Attorney General of the State who shall otherwise control the defense of such claim, including settlement. The foregoing shall not relieve DB Team from its obligations to bear the fees and costs of defending and settling such claim.

16.6.6 Even if the Attorney General of the State has appointed counsel selected by DB Team to represent any of the Indemnified Parties, the Attorney General of the State may assume the defense of the applicable Indemnified Parties by delivering to DB Team written notice of such election and the reasons therefor, if the Indemnified Parties, at the time it gives notice of the claim or at any time thereafter, reasonably determines that:

16.6.6.1 A conflict exists between it and DB Team which prevents or potentially prevents DB Team from presenting a full and effective defense;

16.6.6.2 DB Team is otherwise not providing an effective defense in connection with the claim; or

16.6.6.3 DB Team lacks the financial capacity to satisfy potential liability or to provide an effective defense.

16.6.7 If any of the Indemnified Parties is entitled and elects to conduct its own defense pursuant hereto of a claim for which it is entitled to indemnification, DB Team shall reimburse on a current basis all reasonable costs and expenses any such Indemnified Parties incurs in investigating and defending, including, but not limited to, attorney's fees. In the event the Indemnified Parties are entitled to and elect to conduct their own defense, then:

16.6.7.1 In the case of a defense conducted under Article 16.6.3.1, it shall have the right to settle or compromise the claim with DB Team's prior written consent, which shall not be unreasonably withheld or delayed;

16.6.7.2 In the case of a defense conducted under Article 16.6.3.2, it shall have the right to settle or compromise the claim with DB Team's prior written consent, which shall not be unreasonably withheld or delayed, or with approval of the court following reasonable notice to DB Team and opportunity to be heard and without prejudice to the Indemnified Party's rights to be indemnified by DB Team; and

16.6.7.3 In the case of a defense conducted under Article 16.6.3.3, it shall have the right to settle or compromise the claim without DB Team's prior written consent and without prejudice to its rights to be indemnified by DB Team.

16.6.8 A refusal of, or failure to accept, a tender of defense, as well as any Dispute over whether an Indemnified Party which has assumed control of defense is entitled to do so under Article 16.6.6, shall be submitted in accordance with GDOT Standard Specification 105.13 "Claims for Adjustments and Disputes." DB Team shall be entitled to contest an indemnification claim and pursue, through the procedures set forth in GDOT Standard Specification 105.13 "Claims for Adjustments and Disputes," recovery of defense and indemnity payments it has made to or on behalf of the Indemnified Party.

16.6.9 In determining responsibilities and obligations for defending suits pursuant to this Article 16.6, specific consideration shall be given by the Parties to the following factors: (a) the party performing the activity in question; (b) the location of the activity and Incident; (c) contractual arrangements then governing the performance of the activity; and (d) allegations of respective fault contained in the claim.

16.6.10 Notwithstanding anything to the contrary set forth in Article 16.5 or this Article 16.6, the Attorney General of the State of Georgia is the only counsel authorized to represent GDOT or any State affiliated agencies or departments. In the event that there is any potential conflict of interest that could reasonably arise in the representation of any Indemnified Party and DB Team in the defense of any action, suit or proceeding pursuant to Article 16.5 above or in the event that state or local law requires the use of specific counsel, (i) such Indemnified Party may elect in its sole and absolute discretion whether to waive such conflict of interest, and (ii) unless such Indemnified Party elects to waive such conflict of interest, or in any event if required by state or local law, then the counsel designated by the Indemnified Party shall solely represent such Indemnified Party and, if applicable, DB Team shall retain its own separate counsel, each at DB Team's sole cost and expense. The Attorney General of the State of Georgia will consider counsel recommended by DB Team for appointment as a Special Assistant Attorney General.

16.6.11 If a suit or proceeding based on a claimed infringement of a patent or copyright is brought against any of the Indemnified Parties, DB Team shall, at its own expense, defend or settle any such suit or proceeding if authorized to do so in writing by the Attorney General of the State of Georgia subject to the obligations of indemnification as set forth in Article 16.5.

16.6.12 DB Team, subject to Article 16.1.4.4, may settle the claim without the consent or agreement of the Indemnified Parties, unless the settlement (i) would result in injunctive relief or other equitable remedies or otherwise require the Indemnified Parties to comply with restrictions or limitations that adversely affect or materially impair the reputation and standing of the Indemnified Parties, (ii) would require the Indemnified Parties to pay amounts that DB Team or its insurer does not fund in full, (iii) would not result in the Indemnified Parties full and complete release from all liability to the plaintiffs or Claimants who are parties to or otherwise bound by the settlement, or (iv) directly involves any such Indemnified Parties (in which case the Attorney General of the State of Georgia shall be the only counsel authorized to represent such parties with respect to any such settlement).

Article 17 DEFAULT; REMEDIES; CLAIM FOR ADJUSTMENTS AND DISPUTES

17.1 Default by DB Team; Cure Periods

17.1.1 DB Team Default

Subject to relief from its performance obligations pursuant to Article 13.1.2.1 and Article 13.2.1.3, DB Team shall be in breach under this Agreement upon the occurrence of any one or more of the following events or conditions (each a "DB Team Default"):

17.1.1.1 DB Team (a) fails to begin the applicable Work within thirty (30) days following issuance of NTP 1;

17.1.1.2 An Abandonment;

17.1.1.3 DB Team fails to achieve Substantial Completion by the Substantial Completion Deadline, as the same may be extended pursuant to this Agreement;

17.1.1.4 DB Team fails to achieve Final Acceptance by the Final Acceptance Deadline, or fails to achieve such required Elements of the Work by any applicable Milestone Deadline, as any such dates may be extended pursuant to this Agreement;

17.1.1.5 Any representation or covenant in the DB Documents made by DB Team, or any certificate, schedule, report, instrument or other document delivered by or on behalf of DB Team to GDOT pursuant to the DB Documents is materially false, materially misleading or materially inaccurate when made or omits material information when made;

17.1.1.6 DB Team fails to obtain, provide and maintain any insurance, bonds, or other performance security as and when required under this Agreement for the benefit of relevant parties, or fails to comply with any requirement of this Agreement pertaining to the amount, terms or coverage of the same;

17.1.1.7 DB Team makes or attempts to make or suffers a voluntary or involuntary assignment or transfer of all or any portion of this Agreement, the Project or DB Team's Interest, or there occurs a Change of Control, in violation of Article 21;

17.1.1.8 DB Team materially fails to timely observe or perform or cause to be observed or performed any other material covenant, agreement, obligation, term or condition required to be observed or performed by DB Team under the DB Documents (including material failure to perform the Design Work, Construction Work, or any material portion thereof in accordance with the DB Documents); provided that this Article 17.1.1.8 shall not apply to DB Team Defaults specifically addressed by other provisions of Article 17.1.1;

17.1.1.9 After exhaustion of all rights of appeal, there occurs any suspension or debarment (distinguished from ineligibility due to lack of financial qualifications), or there goes into effect an agreement for voluntary exclusion, from bidding, proposing or contracting with any federal or State department or agency of (a) DB Team, (b) any member of DB Team with a material financial obligation owing to DB Team for equity or shareholder loan contributions, (c) any Affiliate of DB Team for whom transfer of ownership would constitute a Change of Control, or (d) any Key Contractor whose work is not completed;

17.1.1.10 DB Team fails to (a) deliver to GDOT any remedial plan as may be required pursuant to Article 17.3.5 or (b) otherwise fails to fully comply with the schedule or specific elements of, or actions required under, any such accepted remedial plan;

17.1.1.11 DB Team commences a voluntary case seeking liquidation, reorganization or other relief with respect to itself or its debts under any U.S. or foreign bankruptcy, insolvency or other similar Law now or hereafter in effect, seeks the appointment of a trustee, receiver, liquidator, custodian or other similar official of it or any substantial part of its assets; becomes insolvent, or generally does not pay its debts as they become due; admits in writing its inability to pay its debts; makes an assignment for the benefit of creditors; or takes any action to authorize any of the foregoing; or

17.1.1.12 An involuntary case is commenced against DB Team seeking liquidation, reorganization, dissolution, winding up, a composition or arrangement with creditors, a readjustment of debts or other relief with respect to DB Team or DB Team's debts under any U.S. or foreign bankruptcy, insolvency or other similar Law now or hereafter in effect; seeking the appointment of a trustee, receiver, liquidator, custodian or other similar official of DB Team or any substantial part of DB Team's assets; seeking the issuance of a writ of attachment, execution, or similar process; or seeking like relief, and such involuntary case shall not be contested by DB Team in good faith or shall remain undismissed and unstayed for a period of sixty (60) days.

17.1.2 Forbearance and Cure Periods

For the purpose of GDOT's exercise of other remedies, subject to Article 17.2.2 and subject to remedies that this Article 17 expressly states may be exercised before lapse of a cure period, DB Team shall have the following cure periods with respect to the following DB Team Defaults:

17.1.2.1 Respecting a DB Team Default under Article 17.1.1.10, a period of five (5) days after GDOT delivers to DB Team written notice of the DB Team Default;

17.1.2.2 Respecting a DB Team Default under Article 17.1.1.6, a period of fifteen (15) days after GDOT delivers to DB Team written notice of the DB Team Default; provided that GDOT shall have the right, but not the obligation, to effect cure, at DB Team's expense, if a DB Team Default under Article 17.1.1.6 continues beyond five (5) days after such notice is delivered;

17.1.2.3 Respecting a DB Team Default under Article 17.1.1.1 or Article 17.1.1.2, , a period of thirty (30) days after GDOT delivers to DB Team written notice of the DB Team Default; provided that as to a DB Team Default under Article 17.1.1.1, such cure period shall not preclude or delay GDOT's immediate exercise, without notice or demand, of its right, but not the obligation, to effect cure, at DB Team's expense;

17.1.2.4 Respecting a DB Team Default under Article 17.1.1.5, Article 17.1.1.8 or Article 17.1.1.9, a period of thirty (30) days after GDOT delivers to DB Team written notice of the DB Team Default; provided that (a) if the DB Team Default is of such a nature that the cure cannot with diligence be completed within such time period and DB Team has commenced meaningful steps to cure immediately after receiving the default notice, DB Team shall have such additional period of time, up to a maximum cure period of one hundred and eighty (180) days, as is reasonably necessary to diligently effect cure, (b) as to Article 17.1.1.5, cure will be regarded as complete when the adverse effects of the breach are cured, and (c) as to Article 17.1.1.9, if the debarred or suspended Person is a managing member, general partner or controlling investor of DB Team, cure will be regarded as complete when DB Team proves it has removed such Person from any position or ability to manage, direct or control the decisions of DB Team or to perform Work;

17.1.2.5 Respecting a DB Team Default under Article 17.1.1.11 or Article 17.1.1.12, no cure period, and there shall be no right to notice of a DB Team Default under Article 17.1.1.11 or Article 17.1.1.12; and

17.1.2.6 Respecting a DB Team Default arising from DB Team's failure to achieve any Milestone Deadline other than the Substantial Completion Deadline or Final Acceptance Deadline, a forbearance period of thirty (30) days from the date of such DB Team Default shall apply, provided that DB Team shall, as a condition to such forbearance period, be required to (a) deliver to GDOT a remedial action plan within ten (10) days after written notice of such DB Team Default, pursuant to Article 17.3.5 (without further demand or notice by GDOT), and (b) with the delivery of such remedial action plan, acknowledge any associated Liquidated Damages that are accruing. Where such remedial action plan has been accepted by GDOT in writing, then such forbearance period as provided herein shall be extended or abbreviated as required by such remedial action plan, subject to DB Team's diligent prosecution of the Work in accordance therewith. Any such DB Team Default shall be deemed cured upon satisfaction of the conditions set forth in such accepted remedial action plan and any Liquidated Damages shall cease to accrue upon the date of such satisfaction. Notwithstanding anything to the contrary herein, Liquidated Damages accruing during such forbearance period, as may be extended, shall not be waived by this Article 17.1.2.6 and shall be payable pursuant to the terms of this Agreement.

17.1.3 Certain Curative Actions; Status Report

17.1.3.1 If the DB Team Default consists of failure to give GDOT a required prior notice and opportunity to complete an applicable review and comment or acceptance procedure

under Article 6.3 before action is taken by DB Team, such DB Team Default shall be curable only by reversing or suspending the action until the notice and review and comment or acceptance procedures are followed and completed, unless DB Team finished the action before receiving the notice of DB Team Default or unless waived by GDOT.

17.1.3.2 If the DB Team Default consists of any DB Team activity or failure to act which constitutes a change from DB Team's activities immediately prior to the DB Team Default, such DB Team Default shall be curable only by reinstating the activity as it was being performed immediately prior to the DB Team Default.

17.1.3.3 For any DB Team Default for which a Warning Notice has been delivered by GDOT to DB Team, DB Team may request from GDOT a status report as to DB Team's progress in effecting a cure, by delivering to GDOT a written request accompanied by DB Team's own report as to its progress in effecting a cure. GDOT shall provide its response within ten (10) Business Days after receipt of DB Team's written request and report. The response shall be provided solely for purposes of informing DB Team as to GDOT's view of the progress in effecting a cure for the DB Team Default, shall not constitute an admission of any fact, shall not be admissible in evidence for any purpose, shall not form the basis for any Dispute or Claim, and shall not limit in any way GDOT's right to terminate this Agreement in accordance with Article 19.3 should cure not be effected within the relevant period.

17.2 Warning Notices

17.2.1 Warning Notice Events

Without prejudice to any other right or remedy available to GDOT, GDOT may, but in no case shall be required to, deliver a written notice (a "Warning Notice") to DB Team, stating explicitly that it is a "Warning Notice" and stating in reasonable detail the matter or matters giving rise to the notice and, if applicable, amounts due from DB Team, and reminding DB Team of the implications of such notice, whenever there occurs any of the following:

17.2.1.1 Any DB Team Default under Article 17.1.1.1, 17.1.1.2, 17.1.1.7, 17.1.1.8, or 17.1.1.10;

17.2.1.2 Delay or failure to achieve any Milestone Deadline; or

17.2.1.3 Any other material DB Team Default.

17.2.2 Effect of Warning Notice on DB Team Cure Period

17.2.2.1 Any notice of a DB Team Default issued under Article 17.1 may, if it concerns a matter under Article 17.2.1, also be issued as a Warning Notice. In such case, the cure period available to DB Team, if any, shall be as set forth in Article 17.1.2.

17.2.2.2 If GDOT issues a Warning Notice under Article 17.2.1 for any DB Team Default after it issues a notice of such DB Team Default, then the cure period available to DB Team, if any, for such DB Team Default before GDOT may seek to appoint a receiver for DB Team, remove DB Team or terminate this Agreement on account of such DB Team Default shall be extended by the time period between the date the notice of such DB Team Default was issued and the date the Warning Notice is issued. No later issuance of a Warning Notice shall extend the time when GDOT may exercise any other remedy respecting such DB Team Default.

17.2.3 Other Effects of Warning Notice

17.2.3.1 The issuance of a Warning Notice shall entitle GDOT to increase the level of oversight as provided in Article 17.3.8.

17.2.3.2 The issuance of a Warning Notice may trigger a Default Termination Event as provided in Article 19.3.

17.3 Remedies for DB Team Default

17.3.1 Termination

In the event of any DB Team Default that is or becomes a Default Termination Event set forth in Article 19.3.1, GDOT may terminate this Agreement and GDOT thereupon may take control of the Work, which termination shall, among other things, automatically terminate all of DB Team's rights under Article 2, whereupon DB Team shall take all action required to be taken by DB Team under Article 19.5.

17.3.2 Remedies for Failure to Meet Safety Standards or Perform Safety Compliance

17.3.2.1 Subject to Article 17.3.2.4, if at any time DB Team fails to meet any Safety Standard or timely perform Safety Compliance or GDOT and DB Team cannot reach an agreement regarding the interpretation or application of a Safety Standard or the valid issuance of a Safety Compliance Order within a period of time acceptable to GDOT, acting reasonably, GDOT shall have the absolute right and entitlement to undertake or direct DB Team to undertake any work required to ensure implementation of and compliance with Safety Standards as interpreted or applied by GDOT or with the Safety Compliance Order.

17.3.2.2 To the extent that any work done pursuant to Article 17.3.2.1 is undertaken by GDOT and is reasonably necessary to comply with Safety Standards or perform validly issued Safety Compliance Orders, DB Team shall pay to GDOT on demand GDOT Recoverable Costs in connection with such work, and GDOT (whether it undertakes the work or has directed DB Team to undertake the work) shall have no obligation or liability to compensate DB Team for any Losses DB Team suffers or incurs as a result thereof.

17.3.2.3 To the extent that any work done pursuant to Article 17.3.2.1 is undertaken by GDOT and is not reasonably necessary to comply with Safety Standards or perform validly issued Safety Compliance Orders, GDOT shall compensate DB Team only for Losses DB Team suffers or incurs as a direct result thereof.

17.3.2.4 To the extent that any Safety Compliance Order work pursuant to Article 17.3.2.1 is undertaken by DB Team under written protest delivered prior to starting the work and it is finally determined that the Safety Compliance work was not necessary, the unnecessary work under the Safety Compliance Order shall be treated as a GDOT Change.

17.3.2.5 Notwithstanding anything to the contrary contained in the DB Documents, if in the good faith judgment of GDOT, DB Team has failed to meet any Safety Standards or perform Safety Compliance and the failure results in an Emergency or danger to persons or property, and if DB Team is not then diligently taking all necessary steps to rectify or deal with such Emergency or danger, GDOT may, without notice and without awaiting lapse of

the period to cure any breach, and in addition and without prejudice to its other remedies, (but is not obligated to) (a) immediately take such action as may be reasonably necessary to rectify the Emergency or danger, in which event DB Team shall pay to GDOT on demand the cost of such action, including GDOT Recoverable Costs, or (b) suspend Construction Work and/or close or cause to be closed any and all portions of the Project affected by the Emergency or danger. So long as GDOT undertakes such action in good faith, even if under a mistaken belief in the occurrence of such failure or existence of an Emergency or danger as a result thereof, such action shall not be deemed unlawful or a breach of this Agreement, shall not expose GDOT to any liability to DB Team and shall not entitle DB Team to any other remedy, it being acknowledged that GDOT has a high priority, paramount public interest in protecting public and worker safety at the Project and adjacent and connecting areas. GDOT's good faith determination of the existence of such a failure, Emergency or danger shall be deemed conclusive in the absence of clear and convincing evidence to the contrary. Immediately following rectification of such Emergency or danger, as determined by GDOT, acting reasonably, GDOT shall allow the Construction Work to continue or such portions of the Project to reopen, as the case may be. The foregoing shall not, however, protect GDOT from DB Team's lawful claims to indemnity or contribution for third party bodily injury or property damage arising out of any such GDOT action, if and to the extent (i) GDOT was mistaken in believing such a DB Team Default occurred, (ii) the third party liability is not insured and not required to be insured under the DB Documents, and (iii) such injury or property damage was caused by GDOT's negligence, recklessness or intentional misconduct.

17.3.3 Step-in Rights

Upon the occurrence of a DB Team Default and expiration, without full and complete cure, of the cure period, if any, available to DB Team, without necessity for a Warning Notice, and without waiving or releasing DB Team from any obligations, GDOT shall have the right, but not the obligation, for so long as such DB Team Default remains uncured by GDOT or DB Team, to pay and perform all or any portion of DB Team's obligations and the Work that are the subject of such DB Team Defaults, as well as any other then-existing breaches or failures to perform for which DB Team received prior written notice from GDOT but has not commenced diligent efforts to cure.

17.3.3.1 In connection with such action, GDOT may, to the extent and only to the extent reasonably required for or incident to curing the DB Team Default or such other breaches or failures to perform for which DB Team received prior written notice from GDOT but has not commenced and continued diligent efforts to cure:

(a) Employ security guards and other safeguards to protect the Project;

(b) Spend such sums as are reasonably necessary to employ and pay such architects, engineers, consultants and contractors and obtain materials and equipment as may be required, without obligation or liability to DB Team or any Contractors for loss of opportunity to perform the same Work or supply the same materials and equipment;

(c) Draw on and use proceeds from payment and performance bonds and other performance security to the extent available under the terms thereof to pay such sums;

(d) Execute all applications, certificates and other documents as may be required;

(e) Make decisions respecting, assume control over and continue Work as may be reasonably required;

(f) Meet with, coordinate with, direct and instruct contractors and suppliers, process invoices and applications for payment from contractors and suppliers, pay contractors and suppliers, and resolve claims of contractors, subcontractors and suppliers, and for this purpose DB Team irrevocably appoints GDOT as its attorney-in-fact with full power and authority to act for and bind DB Team in its place and stead;

(g) Take any and all other actions as may be reasonably required or incident to curing; and

(h) Prosecute and defend any action or proceeding incident to the Work undertaken.

17.3.3.2 DB Team shall reimburse GDOT on demand GDOT Recoverable Costs in connection with the performance of any act or Work authorized by this Article 17.3.3.

17.3.3.3 GDOT and any of their Authorized Representatives, contractors, subcontractors, vendor and employees shall not be liable to DB Team in any manner for any inconvenience or disturbance arising out of its entry onto the Project or Project Specific Locations in order to perform under this Article 17.3.3, unless caused by the gross negligence, recklessness, willful misconduct or bad faith of such Person. If any Person exercises any right to pay or perform under this Article 17.3.3, it nevertheless shall have no liability to DB Team for the sufficiency or adequacy of any such payment or performance, or for the manner or quality of design, or construction unless caused by the gross negligence, recklessness, willful misconduct or bad faith of such Person.

17.3.3.4 The rights under this Article 17.3.3 are subject to the right of any Surety under payment and performance bonds to assume performance and completion of all bonded work.

17.3.3.5 In the event GDOT takes action described in this Article 17.3.3 and it is later finally determined that GDOT lacked the right to do so because there did not occur a DB Team Default and expiration, without full and complete cure, of the cure period, if any, available to DB Team, then GDOT's action shall be treated as a Directive Letter for a GDOT Change.

17.3.4 Damages; Offset

17.3.4.1 Subject to Article 17.3.10 and Article 17.3.11 and the provisions on Liquidated Damages set forth in Article 17.4, GDOT shall be entitled to recover any and all damages available at Law (subject to the duty at Law to mitigate damages and without duplicate recovery) on account of the occurrence of a DB Team Default, including, to the extent available at Law, (a) loss of any compensation due GDOT under the DB Documents proximately caused by the DB Team Default, (b) actual and projected costs to remedy any defective part of the Work, (c) actual and projected costs to rectify any breach or failure to perform by DB Team and/or to bring the condition of the Project to the standard it would have been in if DB Team had complied with its obligations to carry out and complete the Work in accordance with the DB Documents, (d) actual and projected costs to GDOT to terminate, take over the Project, re-procure and replace DB Team, and (e) actual and projected increases in costs to GDOT to complete the Project if not completed, together with interest thereon at the Default Interest Rate commencing from the date

any amount becomes due to GDOT until paid. DB Team shall owe any such damages that accrue after the occurrence of the DB Team Default and the delivery of notice thereof, if any, required by this Agreement regardless of whether the DB Team Default is subsequently cured.

17.3.4.2 GDOT may deduct and offset any Claim amount owing to it, provided such Claim amount has been liquidated under the process set forth under GDOT Standard Specification 105.13 "Claims for Adjustments and Disputes" or otherwise, from and against any amounts GDOT may owe to DB Team or any Affiliate pursuant to this DB Agreement; provided that GDOT shall first draw on all amounts held in respect of the Claim in the GDOT Claims Account.

17.3.4.3 If the Claim amount is not liquidated, GDOT may elect to exercise its right to direct a payment from DB Team up to the disputed portion of the Claim which payment shall be deposited into the GDOT Claims Account. Upon liquidation, the disputed portion of the Claim shall be satisfied first from the amounts held in the GDOT Claims Account, and then through GDOT's right of offset with respect to the liquidated Claim amounts.

17.3.5 Remedial Action Plan Delivery and Implementation

17.3.5.1 Upon the occurrence of a DB Team Default, GDOT shall have the right to demand that DB Team shall, within ten (10) days after written notice of such DB Team Default, be required to prepare and submit a remedial action plan for GDOT acceptance. The remedial action plan shall set forth a schedule and specific actions to be taken by DB Team to improve its performance and cure the DB Team Default. Such actions may include improvements to DB Team's quality management practices, plans and procedures, revising and restating components of the Management Plans, changes in organizational and management structure, increased monitoring and inspections, changes in Key Personnel and other important personnel, replacement of Contractors, corrective measures necessary to expedite the progress of construction and to demonstrate ability to achieve any Milestone Deadline including, without limitation, (i) working additional shifts or overtime and/or (ii) supplying additional manpower, equipment and facilities, and delivery of security to GDOT. Notwithstanding the aforementioned, GDOT shall have no obligation to make any demand as presented herein, nor shall DB Team be afforded the right to submit same prior to the exercise of any right or remedy by GDOT as a result of a DB Team Default. DB Team's failure to diligently prosecute the Work in accordance with any such accepted remedial action plan shall be deemed a further DB Team Default.

17.3.6 Performance Security

17.3.6.1 Upon the occurrence of a DB Team Default and expiration, without full and complete cure, of the applicable cure period, if any, under Article 17.1.2, without necessity for a Warning Notice, and without waiving or releasing DB Team from any obligations, and subject to Article 16.2.4 if applicable, GDOT shall be entitled to make demand upon and enforce any bond, and make demand upon, draw on and enforce and collect any guaranty or other payment or performance security available to GDOT under this Agreement with respect to the DB Team Default in question in any order in GDOT's sole discretion. Where access to a bond or other payment or performance security is to satisfy damages owing, GDOT shall be entitled to make demand, draw, enforce and collect regardless of whether the DB Team Default is cured subsequent to such draw. GDOT will apply the proceeds of any such action to the satisfaction of DB Team's obligations under the DB Documents, including payment of amounts due GDOT. The foregoing does not limit or affect any other right of GDOT to make demand upon and enforce any

bond, and make demand upon, draw on and enforce and collect any guaranty or other payment or performance security, immediately after GDOT are entitled to do so under the bond, guaranty or other payment or performance security.

17.3.7 Suspension of Work

17.3.7.1 Upon GDOT's delivery of notice of DB Team Default for any of the following breaches or failures to perform and DB Team's failure to fully cure and correct, within the applicable cure period, if any, available to DB Team under Article 17.1.2, GDOT shall have the right and authority to suspend any affected portion of the Work by written order to DB Team:

(a) Performance of Nonconforming Work;

(b) Failure to comply with any Law or Governmental Approval (including failure to handle, preserve and protect archeological, paleontological or historic resources, or failure to handle Hazardous Materials, in accordance with applicable Laws and Governmental Approvals);

(c) Certain failures to remove and replace personnel as set forth in Article 10.6.3;

(d) Failure to provide proof of required insurance coverage as set forth in Article 16.1.2.4(c);

(e) Failure to carry out and comply with Directive Letters;

(f) Failure to satisfy any condition to commencement of construction set forth in Article 7.6; and.

(g) Failure to maintain, extend or replace performance and payment security required under the Agreement, including any P&P Bonds, unless a drawing has been made under same in the amount of the required coverage provided for in Article 16.2 and the proceeds of such drawing are held by GDOT.

GDOT will lift the suspension order promptly after DB Team fully cures and corrects the applicable breach or failure to perform.

17.3.7.2 In addition, GDOT shall have the right and authority to suspend any affected portion of the Work by written notice to DB Team for the following reasons:

(a) To comply with any court order or judgment (although it may qualify as a Compensation Event under clause (g) of the definition of "Compensation Event" or a Relief Event under clause (m) of the definition of "Relief Event");

(b) GDOT's performance of data recovery respecting archeological, paleontological or cultural resources (although it may qualify as a Relief Event under clause (j) of the definition of "Relief Event");

(c) The existence of conditions unsafe for workers, other Project personnel or the general public, including certain failures to comply with Safety Standards or perform Safety Compliance as set forth in Article 17.3.2.5; or

(d) DB Team has failed to (i) pay in full when due sums owing any Contractor for services, materials or equipment, except only for retainage provided in the relevant Contract and amounts in dispute, or (ii) deliver any certificate, release, certified payroll or affidavit of wages paid required with any Payment Request or required under Article 16.2.5.1.

17.3.7.3 DB Team shall promptly comply with any such written suspension order, even if DB Team disputes the grounds for suspension. DB Team shall promptly recommence the Work upon receipt of written notice from GDOT directing DB Team to resume Work.

17.3.7.4 In addition to the protections from liability under Article 17.3.2.5, GDOT shall have any liability to DB Team, and DB Team shall have no right to a Relief Event or Compensation Event, in connection with any suspension properly founded on any of the other grounds set forth in this Article 17.3.7 (except potential Relief Events or Compensation Events in the case of suspensions under Articles 17.3.7.2(a) and 17.3.7.2(b)). If GDOT orders suspension of Work on one of the foregoing grounds but it is finally determined under the process set forth under GDOT Standard Specification 105.13 "Claims for Adjustments and Disputes" that such grounds did not exist, or if GDOT orders suspension of Work for any other reason, it shall be treated as a Directive Letter for a GDOT Change, except as provided in Article 17.3.2.5.

17.3.8 Increased Oversight, Testing, and Inspection

17.3.8.1 Upon GDOT's delivery of notice of DB Team Default for any of the following breaches or failures to perform and DB Team's failure to fully cure and correct, within the applicable cure period, if any, available to DB Team under Article 17.1.2, GDOT shall have the right and authority to suspend any affected portion of the Work by written order to DB Team.

17.3.8.2 If GDOT cannot confirm that: (a) a portion of the Design Work or the Construction Work is in accordance with the requirements of the DB Documents due to a lack of documented inspection or testing by DB Team as required under the DB Documents, or (b) DB Team is implementing, revising, or updating a testing and inspection plan in accordance with the DB Documents for the Design Work or the Construction Work, GDOT shall have the right but not the obligation to inform DB Team that increased monitoring, inspection, sampling, measuring, testing and oversight should be provided. If the increased monitoring, inspection, sampling, measuring, testing and oversight reveal: (i) a failure to perform such Work in accordance with the Quality Management Plan, (ii) that the Quality Management Plan does not comply with the DB Documents, or (iii) that such Work is not in accordance with the DB Documents, DB Team shall be responsible for the costs of such increased monitoring, inspection, sampling, measuring, testing and oversight as described in Article 17.3.8. DB Team shall correct such deficiencies and the increased monitoring, inspection, sampling, measuring, testing and oversight will continue until those deficiencies have been corrected. If such Work was performed, inspected and documented by DB Team in accordance with the DB Documents, the costs of the increased monitoring, inspection, sampling, measuring, testing and oversight shall be borne by GDOT.

17.3.8.3 If GDOT increases the level of monitoring, inspection, sampling, measuring, testing, auditing and oversight under Article 17.3.8.1 and Liquidated Damages are not provided for under this Agreement in connection with such action, then DB Team shall pay and reimburse GDOT within thirty (30) days after receipt of written demand and reasonable supporting documentation for all increased costs and fees GDOT incurs in connection with such action, including GDOT Recoverable Costs.

17.3.8.4 The foregoing does not preclude GDOT, at its sole discretion and expense, from increasing its level of monitoring, inspection, sampling, measuring, testing, auditing and oversight at other times.

17.3.9 Other Rights and Remedies

Subject to Article 17.3.11, Article 17.4.5.2 and Article 19.9, GDOT shall also be entitled to exercise any other rights and remedies available under this Agreement or any other DB Documents, or available at law or in equity.

17.3.10 Cumulative, Non-Exclusive Remedies

Subject to Articles 17.3.11, 17.4.5.2 and 19.9, each right and remedy of GDOT hereunder shall be cumulative and shall be in addition to every other right or remedy provided herein or now or hereafter existing at Law or in equity or by statute or otherwise, and the exercise or beginning of the exercise by GDOT of any one or more of any of such rights or remedies shall not preclude the simultaneous or later exercise by GDOT of any or all other such rights or remedies.

17.3.11 Limitation on Consequential Damages

17.3.11.1 Notwithstanding any other provision of the DB Documents and except as set forth in Article 17.3.11.2, to the extent permitted by applicable Law, DB Team shall not be liable for punitive damages or special, indirect or incidental, or consequential damages, whether arising out of breach of this Agreement, tort (including negligence) or any other theory of liability, and GDOT releases DB Team from any such liability, other than for Liquidated Damages for delay, as provided pursuant to this Agreement or otherwise to the extent recoverable from insurance.

17.3.11.2 The foregoing limitation on DB Team's liability for consequential damages shall not apply to or limit any right of recovery GDOT may have respecting the following:

(a) Losses (including defense costs) to the extent (i) covered by the proceeds of insurance required to be carried pursuant to Article 16.1, (ii) covered by the proceeds of insurance actually carried by or insuring DB Team under policies solely with respect to the Project and the Work, regardless of whether required to be carried pursuant to Article 16.1, or (iii) DB Team is deemed to have self-insured the Loss pursuant to Article 16.1.4.3;

(b) Losses arising out of fraud, criminal conduct, intentional misconduct (which does not include any intentional DB Team Default), recklessness, bad faith or gross negligence on the part of DB Team or Design- Build Contractor or any Affiliate of either;

(c) DB Team's obligation to pay Liquidated Damages in accordance with Article 17.4 or any other provision of the DB Documents;

(d) Losses arising out of DB Team Releases of Hazardous Materials;

(e) Reserved;

(f) Amounts DB Team may be obligated to reimburse to GDOT or that are otherwise due from DB Team to GDOT under the express provisions of the DB Documents, including GDOT Recoverable Costs;

(g) Interest, late charges, fees, transaction fees and charges, penalties and similar charges that the DB Documents expressly state are due from DB Team to GDOT; and

(h) Any credits, deductions or offsets that the DB Documents expressly provide to GDOT against amounts owing DB Team.

17.4 Liquidated Damages

17.4.1 Liquidated Damages for Delayed Substantial Completion or Final Acceptance

17.4.1.1 DB Team shall be liable for and pay to GDOT Liquidated Damages with respect to any failure to achieve Substantial Completion by the Substantial Completion Deadline, or any failure to achieve Final Acceptance by the Final Acceptance Deadline, as the same may be extended pursuant to this Agreement, or for any other breach of the requirements of the DB Documents as set forth pursuant to Section 1.2 of Exhibit 18. Such liability shall apply even though (a) a cure period remains available to DB Team under Article 17.1.2 or (b) cure occurs. The amounts of such Liquidated Damages are set forth in Exhibit 18. Such Liquidated Damages shall commence on the Substantial Completion Deadline or the Final Acceptance Deadline, as applicable, or upon the date of breach for each such incident based default pursuant to Section 1.2 of Exhibit 18, as the same may be extended pursuant to this Agreement, and shall continue to accrue until the date of Substantial Completion, the date of Final Acceptance, the cure of any such incident based breach, all as applicable, or until termination of this Agreement.

17.4.1.2 Reserved

17.4.2 Reserved.

17.4.3 Acknowledgements Regarding Liquidated Damages

DB Team further agrees and acknowledges that:

17.4.3.1 In the event that DB Team fails to achieve Substantial Completion by the Substantial Completion Deadline or Final Acceptance by the Final Acceptance Deadline, GDOT will incur substantial damages;

17.4.3.2 Such damages are incapable of accurate measurement and difficult to prove for the reasons stated in this Article 17.4;

17.4.3.3 As of the Effective Date, the amounts of Liquidated Damages under this Article 17.4 represent good faith estimates and evaluations by the Parties as to the actual potential damages that GDOT would incur as a result of late Substantial Completion or late Final Acceptance, and do not constitute a penalty or to otherwise operate as a deterrent for the breach of any obligations of DB Team under this Agreement;

17.4.3.4 The Parties have agreed to such Liquidated Damages in order to fix and limit DB Team's costs and to avoid later Disputes over what amounts of damages are properly chargeable to DB Team;

17.4.3.5 Such sums are reasonable in light of the anticipated or actual harm caused by delayed Substantial Completion or delayed Final Acceptance, the difficulties of the proof of loss, and the inconvenience or infeasibility of otherwise obtaining an adequate remedy;

17.4.3.6 DB Team acknowledges that such Liquidated Damages are reasonable, as determined as of the Effective Date, in light of the respective injuries and damages that may be caused by DB Team's breach and given that such injuries and damages, which include but shall not be limited to, public inconvenience, increased administration and oversight by GDOT (and any other related agencies), and other damages to the general public, GDOT (and other related agencies); and

17.4.3.7 Such Liquidated Damages are not intended to, and do not, liquidate DB Team's liability under the indemnification provisions of Article 16.5, even though third party claims against Indemnified Parties may arise out of the same event, breach or failure that gives rise to such Liquidated Damages.

17.4.4 Payment; Satisfaction; Waiver

17.4.4.1 GDOT shall withhold Liquidated Damages owing under this Article 17.4 from the subsequent DB Team pay application. Liquidated damages shall be withheld by GDOT without right of offset, deduction, reduction or other charge, except as provided in Article 17.6.3.

17.4.4.2 GDOT shall have the right to deduct and offset Liquidated Damages from any amounts owing DB Team to the extent provided in Article 17.3.4. GDOT also shall have the right to draw on any bond, certificate of deposit, or other security provided by DB Team pursuant to this Agreement, to satisfy Liquidated Damages not paid when due.

17.4.4.3 Permitting or requiring DB Team to continue and finish the Work or any part thereof after the Substantial Completion Deadline or Final Acceptance Deadline shall not act as a waiver of GDOT's right to receive Liquidated Damages hereunder or any rights or remedies otherwise available to GDOT.

17.4.5 Non-Exclusive Remedy

17.4.5.1 Each item of Liquidated Damages provided under this Article 17.4 is in addition to, and not in substitution for, any other item of Liquidated Damages assessed under this Article 17.4.

17.4.5.2 GDOT's right to, and imposition of, Liquidated Damages are in addition, and without prejudice, to any other rights and remedies available to GDOT under the DB Documents, at law or in equity respecting the breach, failure to perform or DB Team Default that is the basis for the Liquidated Damages or any other breach, failure to perform or DB Team Default, except for recovery of the monetary damage for delay that the Liquidated Damages are intended to compensate and for which Liquidated Damaged shall be the only amount recoverable on account of delay damages.

17.5 Default by GDOT; Cure Periods

17.5.1 GDOT Default

GDOT shall, subject to any applicable cure period as set forth in Article 17.5.2 below, be in breach under this Agreement upon the occurrence of any one or more of the following events or conditions (each a "GDOT Default"):

17.5.1.1 GDOT fails to make any payment due DB Team under this Agreement within thirty (30) days of the date that any such payment shall be due;

17.5.1.2 Any representation or covenant made by GDOT in this Agreement is false or materially misleading or materially inaccurate when made or omits material information when made;

17.5.1.3 GDOT fails to observe or perform any covenant, agreement, term or condition required to be observed or performed by GDOT under the DB Documents;

17.5.1.4 GDOT makes an assignment other than as permitted pursuant to Article 21.3; or

17.5.1.5 GDOT or other State Governmental Entity confiscates or appropriates the Project or any other material part of DB Team's Interest, excluding a Termination for Convenience or any other exercise of a right of termination set forth in this Agreement.

17.5.2 Cure Periods

GDOT shall have the following cure periods with respect to the any of the conditions set forth in Article 17.5.1 above:

17.5.2.1 Respecting a GDOT Default under Article 17.5.1.1, a period of thirty (30) days after DB Team delivers to GDOT written notice of the GDOT Default; and

17.5.2.2 Respecting a GDOT Default under Article 17.5.1.2, 17.5.1.3, or 17.5.1.5, a period of sixty (60) days after DB Team delivers to GDOT written notice of the GDOT Default; provided that (a) if the GDOT Default is of such a nature that the cure cannot with diligence be completed within such time period and GDOT has commenced meaningful steps to cure immediately after receiving the default notice, GDOT shall have such additional period of time, up to a maximum cure period of one hundred eighty (180) days, as is reasonably necessary to diligently effect cure, and (b) as to Article 17.5.1.2, cure will be regarded as complete when the adverse effects of the breach are cured.

17.6 DB Team Remedies for GDOT Default

17.6.1 Termination and Suspension

Subject to Article 19.9, DB Team will have the right to suspend performance of the Work on account of a GDOT Default subject to any applicable notice and cure periods as set forth in Article 17.5.2. Further, DB Team may upon written notice of not less than fifteen (15) days to GDOT following expiration of such applicable cure period, where such GDOT Default is continuing, exercise the right to terminate this Agreement and recover termination damages as more particularly set forth in, and subject to the terms and conditions of, Article 19.4.

17.6.2 Damages and Other Remedies

DB Team shall have and may exercise the following remedies upon the occurrence of a GDOT Default and expiration, without cure, of the applicable cure period:

17.6.2.1 If DB Team does not terminate this Agreement, then, subject to Article 17.6.4, DB Team may treat the GDOT Default as a Compensation Event on the terms and conditions set forth in Article 13.2 and GDOT shall pay the full Compensation Amount and interest in accordance with Articles 13.2.6 and 13.2.7;

17.6.2.2 If the GDOT Default is a failure to pay when due any undisputed portion of a progress payment owing under a Supplemental Agreement and GDOT fails to cure such GDOT Default within thirty (30) days after receiving from DB Team written notice thereof, DB Team shall be entitled to suspend the Work under the Supplemental Agreement until the default is cured; and

17.6.2.3 Subject to Articles 17.6.4 and 19.9, DB Team also shall be entitled to exercise any other remedies available under this Agreement or at Law or in equity, including offset rights to the extent and only to the extent available under Article 17.6.3. Subject to Articles 17.6.4 and 19.9, each right and remedy of DB Team hereunder shall be cumulative and shall be in addition to every other right or remedy provided herein or now or hereafter existing at Law or in equity or by statute or otherwise, and the exercise or beginning of the exercise by DB Team of any one or more of any of such rights or remedies shall not preclude the simultaneous or later exercise by DB Team of any or all other such rights or remedies.

17.6.3 Offset Rights

DB Team may deduct and offset any Claim amount owing to it, provided such Claim amount has been liquidated through GDOT Standard Specification 105.13 "Claims for Adjustments and Disputes" as provided in Article 17.7 or otherwise, from and against any amounts DB Team may owe to GDOT pursuant hereto.

17.6.4 Limitations on Remedies

17.6.4.1 Notwithstanding any other provision of the DB Documents and except as forth in Article 17.6.4.2, to the extent permitted by applicable Law, GDOT shall not be liable for punitive damages or any indirect, incidental or consequential damages, whether arising out of breach of this Agreement or any DB Documents, tort (including negligence) or any other theory of liability, and DB Team releases GDOT from any such liability.

17.6.4.2 The foregoing limitation on GDOT's liability for consequential damages shall not apply to or limit any right of recovery DB Team may have respecting the following:

(a) Losses arising out of fraud, criminal conduct, intentional misconduct (which does not include any intentional GDOT Default), recklessness, bad faith or gross negligence on the part of GDOT;

(b) Losses arising out of GDOT Release(s) of Hazardous Materials or Pre-Existing Hazardous Materials;

(c) Any amounts GDOT may owe or be obligated to reimburse under the express provisions of this Agreement for Compensation Events or events of termination;

(d) Any other specified amounts GDOT may owe or be obligated to reimburse to DB Team under the express provisions of the DB Documents;

(e) Interest and charges that the DB Documents expressly state are due from GDOT to DB Team; and

(f) Any credits, deductions or offsets that the DB Documents expressly provide to DB Team against amounts owing GDOT.

17.6.4.3 The measure of compensation available to DB Team as set forth in this Agreement for a Compensation Event or an event of termination shall constitute the sole and exclusive monetary relief and damages available to DB Team from the State or GDOT arising out of or relating to such event; and DB Team irrevocably waives and releases any right to any other or additional damages or compensation from the State or GDOT. No award of compensation or damages shall be duplicative.

17.6.4.4 Without limiting the effect of Article 17.6.4.3, in the event GDOT wrongfully withholds an acceptance or consent required under this Agreement, or wrongfully issues an objection to or disapproval of a Submittal or other matter under this Agreement, DB Team's sole remedies against GDOT shall be extensions of time to the extent provided in Article 13.1 for a Relief Event and damages to the extent provided in Article 13.2 for a Compensation Event.

17.6.5 Procedure for Payment of Judgments

Promptly after any final, non-appealable order or judgment awarding compensation or damages to DB Team, GDOT shall institute payment procedures as set forth in applicable Law.

17.7 Dispute Resolution Procedures

17.7.1 The Parties shall endeavor to resolve any Dispute that may arise between them through good faith negotiations. If the Dispute is not resolved to the mutual satisfaction of all Parties within thirty (30) days after written notification of such Dispute, or such longer time as is mutually agreed, the dispute shall next be submitted in accordance with Section 17.7.2.

17.7.2 If, despite good faith negotiations between the Parties, any Disputes are not resolved within thirty (30) days after written notification of such Dispute, then the Dispute shall be submitted administratively to mediation as set forth below.

17.7.2.1 The Parties shall mutually select a private mediator to formally mediate the Disputes. If the Parties cannot mutually select a private mediator, the mediator shall be selected pursuant to the mediation rules established by the American Arbitration Association or other dispute resolution organization agreed to by the Parties. Mediation shall normally be scheduled within forty five (45) calendar days of notification of the decision by either party to submit the Dispute to mediation. DB Team shall each pay one-half of the fees and administrative costs charged by the selected mediator. Other parties, such as GDOT and Contractors, may be invited to the mediation as may be appropriate for the mediation.

17.7.2.2 The Parties, to provide economies of scale, may mutually agree in writing to submit one or more Claims, whether or not factually related, to a single mediation. In such event, time periods may be extended by mutual written agreement to facilitate preparation for the mediation.

17.7.2.3 If the Dispute has not been settled within forty-five (45) calendar days following written notification of the Dispute to mediation or within such other period that the Parties may agree in writing, such Dispute may be submitted to litigation by either party in accordance with Section 17.7.4.

17.7.3 No litigation may be filed by either Party concerning any Claim or Dispute prior to using the procedure described in Section 17.7.2. This procedure is a condition precedent for any Party to commence a civil action for resolution of a Claim or Dispute.

17.7.4 All litigation between the Parties arising out of or pertaining to this Agreement or its breach shall be filed, heard and decided in the Superior Court of Fulton County, Georgia, which shall have exclusive jurisdiction and venue pursuant to O.C.G.A. § 50-21-1. Each Party shall bear its own attorney's fees and costs in any dispute or litigation arising out of or pertaining to this Agreement, and no Party shall seek or accept an award of attorney's fees or costs.

Article 18 RESERVED

Article 19 TERMINATION

19.1 Termination for Convenience

19.1.1 GDOT may terminate this Agreement, if GDOT determines, in its sole discretion, that a termination is in GDOT's best interest (a "Termination for Convenience"). Termination of this Agreement shall not relieve DB Team or any Guarantor or Surety of its obligation for any claims arising prior to termination.

19.1.2 GDOT may exercise Termination for Convenience by delivering to DB Team a written notice of termination for Convenience specifying the election to terminate. Termination for Convenience shall be effective as and when provided in Exhibit 20.

19.1.3 In the event of a Termination for Convenience, DB Team will be entitled to compensation determined in accordance with Exhibit 20. Payment will be due and payable as and when provided in Exhibit 20.

19.1.4 If GDOT terminates this Agreement on grounds or in circumstances beyond GDOT's termination rights specifically set forth in this Agreement, such termination shall be deemed a Termination for Convenience for the purpose of determining the Termination Compensation due.

19.2 Reserved

19.3 Termination for DB Team Default

19.3.1 DB Team Defaults Triggering GDOT Termination Rights

The following DB Team Defaults (each a "Default Termination Event"), and no other DB Team Defaults, shall entitle GDOT, at its sole election, to terminate this Agreement, effective immediately upon delivery of written notice of termination to DB Team. DB Team agrees and acknowledges and stipulates that any of the following DB Team Defaults would result in material and substantial harm to GDOT's rights and interests under this Agreement and therefore

constitute a material DB Team Default justifying termination if not cured within the applicable cure period, if any.

19.3.1.1 The DB Team fails to achieve Substantial Completion by the Substantial Completion Deadline, as the same may be extended pursuant to this Agreement;

19.3.1.2 There occurs any other DB Team Default for which GDOT issues a Warning Notice under Article 17.2 or 17.3, and such DB Team Default is not fully and completely cured within the applicable cure period, if any, set forth in Article 17.2.2.1 or 17.3;

19.3.1.3 There occurs any DB Team Default under Article 17.1.1.11 or 17.1.1.12; or

19.3.1.4 The DB Team fails to diligently prosecute and adhere to the requirements of any remedial action plan as provided and accepted by GDOT pursuant to Article 17.3.5.

19.3.2 Compensation to DB Team

If GDOT issues notice of termination of this Agreement due to a Default Termination Event, or if DB Team terminates this Agreement on grounds or in circumstances beyond DB Team's termination rights specifically set forth in this Agreement, DB Team will be entitled to compensation to the extent, and only to the extent, provided in Exhibit 20. Payment shall be due and payable as and when provided in Exhibit 20.

19.3.3 Finality

If GDOT issues notice of termination of this Agreement due to a Default Termination Event, termination shall be effective and final immediately upon delivery of written notice as provided in Article 19.3.1 regardless of whether GDOT is correct in determining that GDOT has the right to terminate for DB Team Default. In the event it is determined that GDOT lacked such right, then such termination shall be treated as a Termination for Convenience as provided in Article 19.1.4 for the purpose of determining the Termination Compensation due.

19.4 Termination for GDOT Default, Suspension of Work, Force Majeure Event, or Materially Delayed Notice to Proceed

19.4.1 In the event of a material GDOT Default under Article 17.5.1.1 (failure to pay money due) that remains uncured following notice and expiration of the applicable cure period under Article 17.5.2, DB Team may deliver to GDOT a further written notice setting forth such GDOT Default and warning GDOT that DB Team may elect to terminate this Agreement and if GDOT does not cure such GDOT Default within sixty (60) days after the delivery of such notice with respect to a GDOT Default under Article 17.5.1.1. GDOT may avoid termination by effecting cure within such sixty (60) day period. Failing such cure, DB Team shall have the right to terminate this Agreement, effective immediately upon delivery of written notice of termination to GDOT. In the event of such termination, DB Team will be entitled to compensation determined in accordance with Exhibit 20. Payment shall be due and payable as and when provided in Exhibit 20. Any Dispute arising out of the determination of such compensation shall be resolved according to GDOT Standard Specification 105.13 "Claims for Adjustments and Disputes."

19.4.2 In the event (i) GDOT orders DB Team to suspend Work on all or any material portion of the Project for a reason other than those set forth in Article 17.3.7.1, or (ii) as a result of a Force Majeure Event, and such suspension of Work continues for a period of one hundred and eighty (180) consecutive days or more, DB Team shall have the right to terminate this Agreement, effective immediately upon delivery of written notice of termination to GDOT. In the event of such termination, DB Team will be entitled to compensation determined in accordance with Exhibit 20. Payment shall be due and payable as and when provided in Exhibit 20. Any Dispute arising out of the determination of such compensation shall be resolved according to GDOT Standard Specification 105.13 "Claims for Adjustments and Disputes."

19.4.3 In the event GDOT does not issue NTP 1, NTP 2, or NTP 3 within three hundred and sixty five (365) days after the anticipated issuance date set forth in Article 3.3, DB Team shall have the right to terminate this Agreement, effective immediately upon delivery of written notice of termination to GDOT. In the event of such termination, DB Team will be entitled to compensation determined in accordance with Exhibit 20. Payment shall be due and payable as and when provided in Exhibit 20. Any Dispute arising out of the determination of such compensation shall be resolved according to GDOT Standard Specification 105.13 "Claims for Adjustments and Disputes."

19.4.4 If DB Team issues notice of termination of this Agreement due to a material GDOT Default under Article 17.5.1.1, termination shall be effective and final immediately upon delivery as provided in Article 19.4.1 regardless of whether DB Team is correct in determining that it has the right to terminate for such GDOT Default. In the event it is determined that DB Team lacked such right, then such termination shall be treated as a termination due to material DB Team Default and Article 19.3.2 shall govern the measure of the Termination Compensation.

19.5 Termination Procedures and Duties

Upon expiration of the Term or any earlier termination of this Agreement for any reason, including due to GDOT Default, the provisions of this Article 19.5 shall apply. DB Team shall timely comply with such provisions independently of, and without regard to, the timing for determining, adjusting, settling and paying any amounts due DB Team or GDOT on account of termination.

19.5.1 In any case where notice of termination precedes the effective Early Termination Date:

19.5.1.1 DB Team shall continue performing the Work in accordance with, and without excuse from, all the standards, requirements and provisions of the DB Documents, and without curtailment of services, quality and performance;

19.5.1.2 Reserved

19.5.1.3 Reserved.

19.5.1.4 Within three (3) days after receipt of a notice of termination, DB Team shall meet and confer with GDOT for the purpose of developing an interim transition plan for the orderly transition of Work, demobilization and transfer of the Project control to GDOT. The Parties shall use diligent efforts to complete preparation of the interim transition plan within fifteen (15) days after the date DB Team receives the notice of termination. The Parties shall use diligent efforts to complete a final transition plan within thirty (30) days after such date. The transition

plan shall be in form and substance acceptable to GDOT in its good faith discretion and shall include and be consistent with the other provisions and procedures set forth in this Article 19.5, all of which procedures DB Team shall immediately follow, regardless of any delay in preparation or acceptance of the transition plan.

19.5.2 On the Termination Date, or as soon thereafter as is possible, DB Team shall relinquish and surrender full control and possession of the Project to GDOT, and shall cause all persons and entities claiming under or through DB Team to do likewise, in at least the condition required by the Termination Turnover Requirements.

19.5.3 On the later of the Termination Date or the date DB Team relinquishes full control and possession, GDOT shall assume responsibility, at its expense, for the Project, subject to any rights to damages that GDOT has against DB Team where the termination is due to a Default Termination Event.

19.5.4 Reserved.

19.5.5 Reserved.

19.5.6 Within thirty (30) days after notice of termination is delivered, DB Team shall provide GDOT with true and complete list of all materials, goods, machinery, equipment, parts, supplies and other property in inventory or storage (whether held by DB Team or any Person or entity on behalf of or for the account of DB Team) for use in or respecting the Work or the Project, or on order or previously completed but not yet delivered from Suppliers for use in or respecting the Work or the Project. In addition, on or about the Termination Date, DB Team shall transfer title and deliver to GDOT or GDOT's Authorized Representative, through bills of sale or other documents of title, as directed by GDOT, all such materials, goods, machinery, equipment, parts, supplies and other property.

19.5.7 DB Team shall take all action that may be necessary, or that GDOT may direct, for the protection and preservation of the Project, the Work and such materials, goods, machinery, equipment, parts, supplies and other property.

19.5.8 On or about the Termination Date, DB Team shall execute and deliver to GDOT the following, together with an executed bill of sale or other written instrument, in form and substance acceptable to GDOT, acting reasonably, assigning and transferring to GDOT all of DB Team's right, title and interest in and to the following:

19.5.8.1 All completed or partially completed drawings (including plans, elevations, sections, details and diagrams), specifications, designs, Design Documents, as-built and record plans, surveys, and other documents and information pertaining to the design or construction of the Project or the Utility Adjustments;

19.5.8.2 All samples, borings, boring logs, geotechnical data and similar data and information relating to the Project;

19.5.8.3 All books, records, reports, test reports, studies and other documents of a similar nature relating to the Work, the Project;

19.5.8.4 All data and information relating to the use of the Project, including all studies, reports, and other information provided that the transfer of any Intellectual Property shall be subject to Articles 22.4; and

19.5.8.5 All other work product and Intellectual Property used or owned by DB Team or any Affiliate relating to the Work, the Project, provided that the transfer of any Intellectual Property shall be subject to Articles 22.4.

19.5.9 Reserved.

19.5.10 On or about the Termination Date, DB Team shall execute and deliver to GDOT a written assignment, in form and substance acceptable to GDOT, acting reasonably, of all DB Team's right, title and interest in and to all warranties, claims and causes of action held by DB Team against third parties in connection with the Project or the Work.

19.5.11 DB Team shall otherwise assist GDOT in such manner as GDOT may require prior to and for a reasonable period following the Termination Date to ensure the orderly transition of the Project and its management to GDOT.

19.6 Reserved

19.7 Contracts and Agreements

19.7.1 Regardless of GDOT's prior actual or constructive knowledge thereof, no contract or agreement to which DB Team is a party (unless GDOT is also a party thereto) as of the Termination Date shall bind GDOT, unless GDOT elects to assume such contract or agreement in writing. Except in the case of GDOT's express written assumption, no such contract or agreement shall entitle the contracting party to continue performance of work or services respecting the Project following DB Team's relinquishment to GDOT of possession and control of the Project, or to any claim, legal or equitable, against GDOT.

19.8 Liability After Termination; Final Release

19.8.1 No termination of this Agreement shall excuse either Party from any liability arising out of any default as provided in this Agreement that occurred prior to termination. Notwithstanding the foregoing, any termination of this Agreement shall automatically extinguish any Claim of DB Team to payment of Compensation Amounts for adverse cost and revenue impacts accruing after the Early Termination Date from Compensation Events that occurred prior to termination.

19.8.2 If this Agreement is terminated under Article 19.1, 19.3.1, 19.4, or 19.11, then GDOT's payment to DB Team of the amounts required thereunder (if any) shall constitute full and final satisfaction of, and upon payment GDOT shall be forever released and discharged from, any and all Claims, causes of action, suits, demands and Losses, known or unknown, suspected or unsuspected, that DB Team may have against GDOT arising out of or relating to this Agreement or termination thereof, or the Project, are unresolved at the time of such payment and are not related to termination or Termination Compensation. Upon such payment, DB Team shall execute and deliver to GDOT all such releases and discharges as GDOT may reasonably require to confirm the foregoing, but no such written release and discharge shall be necessary to give effect to the foregoing satisfaction and release.

19.9 Exclusive Termination Rights

This Article 19, together with the express provisions on termination set forth in Articles 17.3.1, and 17.6.1, contain the entire and exclusive provisions and rights of GDOT and DB Team regarding termination of this Agreement, and any and all other rights to terminate at law or in equity are hereby waived to the maximum extent permitted by Law.

19.10 Access to Information

DB Team shall conduct all discussions and negotiations to determine any Termination Compensation, and shall share with GDOT all data, documents and information pertaining thereto, on an Open Book Basis.

19.11 Termination by Court Ruling

19.11.1 Except in the circumstances described in Exhibit 20, Termination by Court Ruling means, and becomes effective upon, (a) issuance of a final order by a court of competent jurisdiction to the effect that this Agreement is void and/or unenforceable or impossible to perform in its entirety, (b) issuance of a final order by a court of competent jurisdiction upholding the binding effect on DB Team or GDOT of a Change in Law that causes impossibility of performance of a fundamental obligation by DB Team or GDOT under the DB Documents or impossibility of exercising a fundamental right of DB Team or GDOT under the DB Documents, (c) occurrence of the circumstances described in Article 24.13.2, or (d) issuance of a final order by a court of competent jurisdiction to the effect that a material provision under the Estate for Years, Intergovernmental Agreement or the DB Documents is void and/or unenforceable so as to deprive DB Team of its ability to exercise a fundamental right granted to DB Team under the DB Documents and such inability resulting from such order cannot be otherwise remedied through a Compensation Event, Relief Event or other contractual remedy. The final court order shall be treated as the notice of termination.

19.11.2 Once Termination by Court Ruling becomes effective, GDOT and DB Team shall cooperate to implement Articles 19.5, 19.8, and 19.9.

19.11.3 Notwithstanding Article 19.11.2, if a Termination by Court Ruling occurs, DB Team shall be entitled to compensation to the extent, and only to the extent, provided in Exhibit 20. Payment shall be due and payable as and when provided in Exhibit 20. Any Dispute arising out of the determination of such compensation shall be resolved according to GDOT Standard Specification 105.13 “Claims for Adjustments and Disputes.”

Article 20 RESERVED

Article 21 ASSIGNMENT AND TRANSFER

21.1 Restrictions on Assignment, Subletting and Other Transfers

21.1.1 DB Team shall not voluntarily or involuntarily sell, assign, convey transfer, pledge, mortgage or otherwise encumber the DB Team’s Interest or any portion thereof without GDOT’s prior written acceptance (including under any Direct Agreement), except:

21.1.1.1 To any entity that is under the same ultimate management control as DB Team.

21.1.2 DB Team shall not grant any other special occupancy or use of the Project to any other Person that is not in the ordinary course of DB Team performing the Work, without GDOT's prior written acceptance.

21.1.3 Any sale, assignment, conveyance, transfer, pledge, mortgage, encumbrance, or grant of other special occupancy or use in violation of this provision shall be null and void *ab initio* and GDOT may, by Warning Notice, declare any such attempted action to be a material DB Team Default.

21.2 Standards and Procedures for GDOT Acceptance

21.2.1 Where GDOT's prior acceptance is required for a proposed sale, assignment, conveyance, transfer, pledge, mortgage, encumbrance, sublease or grant of other special occupancy or use, or for any proposed Change of Control, GDOT may withhold or condition its acceptance in its sole discretion. Any such decision of GDOT to withhold consent shall be final, binding and not subject to GDOT Standard Specification 105.13 "Claims for Adjustments and Disputes."

21.2.2 Thereafter, GDOT shall not unreasonably withhold its acceptance thereto. Among other reasonable factors and considerations, it shall be reasonable for GDOT to withhold its acceptance if:

21.2.2.1 DB Team fails to demonstrate to GDOT's reasonable satisfaction that the proposed assignee, sublessee, grantee or transferee, or the proposed transferee of rights and/or equity interests that would amount to a Change of Control (for purposes of these Articles 21.2 through 21.5, collectively the "Transferee"), and its proposed contractors (a) have the financial resources, qualifications and experience to timely perform DB Team's obligations under the DB Documents and Principal Project Documents and (b) are in compliance with GDOT's rules, regulations and adopted written policies regarding organizational conflicts of interest;

21.2.2.2 Less than all of DB Team's Interest is proposed to be assigned, conveyed, transferred, pledged, mortgaged, encumbered, or granted; or

21.2.2.3 At the time of the proposed sale, assignment, conveyance, transfer, pledge, mortgage, encumbrance, sublease or grant of other special occupancy or use requiring GDOT's prior acceptance, or of any proposed Change of Control, there exists any uncured DB Team Default or any event or circumstance that with the lapse of time, the giving of notice or both would constitute a DB Team Default, unless GDOT receives from the proposed Transferee assurances of cure and performance acceptable to GDOT in its good faith discretion.

21.2.3 GDOT will accept or disapprove within thirty (30) days after it receives from DB Team a Submittal consisting of a request for acceptance together with (a) a reasonably detailed description of the proposed transaction, (b) such information, evidence and supporting documentation as GDOT may request concerning the identity, financial resources, qualifications, experience and potential conflicts of interest of the proposed Transferee and its proposed contractors and (c) such evidence of organization and authority, and such incumbency certificates, certificates regarding debarment or suspension, and other certificates, representations and warranties as GDOT may reasonably request. GDOT will evaluate the identity, financial resources, qualifications, experience and potential conflicts of interest using

the same standards and criteria that it is then currently applying, or if there is no current application, then the same standards and criteria it most recently applied, to the evaluation of Persons responding to GDOT requests for qualifications for concession or similar agreements for comparable projects and facilities.

21.2.4 If for any reason GDOT does not act within such thirty (30) day period, or any extension thereof by mutual agreement of the Parties, then the provisions of Article 6.3.4.2 shall apply.

21.3 Assignment by GDOT

GDOT may assign all or any portion of its rights, title and interests in and to the DB Documents, payment and performance bond(s), guarantees, and other security for payment or performance, (a) without DB Team's consent, to any other Person that succeeds to the governmental powers and authority of GDOT, and (b) to others with the prior written consent of DB Team.

21.4 Notice and Assumption

21.4.1 Assignments and transfers of the DB Team's Interest permitted under this Article 21 (other than pursuant to Article 21.1.1.1) or otherwise accepted in writing by GDOT shall be effective only upon GDOT's receipt of written notice of the assignment or transfer and a written recordable instrument executed by the Transferee, in form and substance acceptable to GDOT, in which the Transferee, without condition or reservation, assumes all of DB Team's obligations, duties and liabilities under the DB Documents and agrees to perform and observe all provisions thereof applicable to DB Team.

21.4.2 Each Transferee, including any Person who acquires the DB Team's Interest pursuant to foreclosure, transfer in lieu of foreclosure or similar proceeding, shall take the DB Team's Interest subject to, and shall be bound by, the Management Plans, the Key Contracts, the Standard Utility Agreements, all agreements between the transferor and railroads, the Governmental Approvals, and all agreements between the transferor and Governmental Entities with jurisdiction over the Project or the Work, except to the extent otherwise accepted by GDOT in writing in its good faith discretion.

21.4.3 Except with respect to assignments and transfers pursuant to foreclosure, transfer in lieu of foreclosure or similar proceeding, the transferor and Transferee shall give GDOT written notice of the assignment not less than thirty (30) days prior to the effective date thereof.

21.5 Change of Organization or Name

21.5.1 DB Team shall not change the legal form of its organization in a manner that adversely affects GDOT's rights, protections and remedies under the DB Documents without the prior written acceptance of GDOT, which consent may be granted or withheld in GDOT's sole discretion.

21.5.2 In the event either Party changes its name, such Party agrees to promptly furnish the other Party with written notice of change of name and appropriate supporting documentation.

Article 22 RECORDS AND AUDITS; INTELLECTUAL PROPERTY

22.1 Maintenance and Inspection of Records

22.1.1 DB Team shall keep and maintain at a single location all books, records and documents relating to the Project, Utility Adjustments or Work, including copies of all original documents delivered to GDOT. DB Team shall keep and maintain such books, records and documents in accordance with applicable provisions of the DB Documents, Section 2 of the Technical Provisions, and of the Management Plans, and in accordance with Good Industry Practice. DB Team shall notify GDOT where such records and documents are kept.

22.1.2 DB Team shall make all its books, records and documents available for inspection by GDOT, it representatives and legal counsel at DB Team's principal offices in Georgia, at all times during normal business hours, without charge. GDOT may conduct any such inspection upon 48 hours' prior written notice, or unannounced and without prior notice where there is good faith suspicion of fraud. The right of inspection includes the right to make extracts and take notes. The provisions of this Article 22.1.2 are subject to the following:

22.1.2.1 DB Team reserves the right to assert exemptions from disclosure for information that would be exempt under applicable State Law from discovery or introduction into evidence in legal actions; and

22.1.2.2 Unless otherwise lawfully required by federal Law or the Open Government Laws, DB Team may make available copies of books, records and documents containing trade secrets and confidential proprietary information with such information redacted. Unless otherwise lawfully required by federal Law or the Open Government Laws, GDOT shall have no right to make extracts of such trade secrets and confidential proprietary information except in connection with resolution of Claims and Disputes.

22.1.2.3 DB Team shall retain records and documents for a minimum of five (5) years after the date the record or document is generated; provided that if the DB Documents or applicable Law specify any longer time period for retention of particular records, such time period shall control. With respect to records and documents generated prior to Final Acceptance, the time period for retention shall commence upon Final Acceptance. Notwithstanding the foregoing, all records which relate to Claims being processed or actions brought forth under GDOT Standard Specification 105.13 "Claims for Adjustments and Disputes" shall be retained and made available until any later date that such Claims and actions are finally resolved.

22.2 Audits

22.2.1 GDOT shall have such rights to review and audit DB Team, its Contractors and their respective books and records as and when GDOT deems necessary for purposes of verifying compliance with the DB Documents and applicable Law. Without limiting the foregoing, GDOT shall have the right to audit DB Team's Management Plans and compliance therewith, including the right to inspect Work and/or activities and to verify the accuracy and adequacy of the Management Plans and its component parts, plans and other documentation. GDOT may conduct any such audit of books and records upon 48 hours' prior written notice, or unannounced and without prior notice where there is good faith suspicion of fraud.

22.2.2 All Claims filed against GDOT shall be subject to audit at any time following the filing of the Claim. The audit may be performed by employees of GDOT or by an auditor under

contract with GDOT. Notice shall not be required before commencing any audit prior to sixty (60) days after the expiration of the term of this Agreement. Thereafter, GDOT shall provide twenty (20) days notice to DB Team, any Contractors or their respective agents before commencing an audit. DB Team, Contractors or their agents shall provide adequate facilities, acceptable to GDOT, for the audit during normal business hours. DB Team, Contractors or their agents shall cooperate with the auditors. Failure of DB Team, Contractors or their agents to maintain and retain sufficient books and records to allow the auditors to verify all or a portion of the Claim or to permit the auditor access to such books and records shall constitute a waiver of the Claim and shall bar any recovery thereunder. At a minimum, the auditors shall have available to them the following documents relating to the Claim:

22.2.2.1 Daily time sheets and supervisor's daily reports;

22.2.2.2 Union agreements;

22.2.2.3 Insurance, welfare, and benefits records;

22.2.2.4 Payroll registers;

22.2.2.5 Earnings records;

22.2.2.6 Payroll tax forms;

22.2.2.7 Material invoices and requisitions;

22.2.2.8 Material cost distribution work sheet;

22.2.2.9 Equipment records (list of company equipment, rates, etc.);

22.2.2.10 Contractors' (including Suppliers') invoices;

22.2.2.11 Contractors' and agents' payment certificates;

22.2.2.12 Canceled checks (payroll and Suppliers);

22.2.2.13 Job cost report;

22.2.2.14 Job payroll ledger;

22.2.2.15 General ledger;

22.2.2.16 Cash disbursements journal;

22.2.2.17 All documents that relate to each and every Claim together with all documents that support the amount of damages as to each Claim; and

22.2.2.18 Work sheets used to prepare the Claim establishing (a) the cost components of the Claim, including labor, benefits and insurance, materials, equipment, Contractors, all documents that establish the time periods, individuals involved, the hours for the individuals, and the rates for the individuals, and (b) the lost revenue components of the Claim.

22.2.3 Full compliance by DB Team with the provisions of this Article 22.2 is a contractual condition precedent to DB Team's right to seek relief on a Claim under Article 17.7.

22.2.4 Reserved

22.2.5 GDOT's right of audit include the right to observe the business operations of DB Team and its Contractors to confirm the accuracy of books and records.

22.2.6 DB Team shall include in the Quality Management Plans internal procedures to facilitate review and audit by GDOT.

22.2.7 DB Team represents and warrants the completeness and accuracy in all material respects of all information it or its agents provides in connection with GDOT audits, and shall cause all Contractors other than Governmental Entities acting as Contractors to warrant the completeness and accuracy in all material respects of all information such Contractors provide in connection with GDOT audits.

22.2.8 DB Team's internal and third party quality and compliance auditing responsibilities shall be set forth in the Quality Management Plans.

22.2.9 Nothing in the DB Documents shall in any way limit the constitutional and statutory powers, duties and rights of elected State officials, including the independent rights of the State Auditor, in carrying out his or her legal authority. DB Team understands and acknowledges that (a) the State auditor may conduct an audit or investigation of any entity receiving funds from the State directly under this Agreement or indirectly through a Contract, (b) acceptance of funds directly under this Agreement or indirectly through a Contract acts as acceptance of the authority of the State auditor to conduct an audit or investigation in connection with those funds, and (c) an entity that is the subject of an audit or investigation must provide the State auditor with access to any information the State auditor considers relevant to the investigation or audit.

22.3 Open Government Laws and Freedom of Information Act

22.3.1 DB Team acknowledges and agrees that all Submittals, records, documents, drawings, Plans, specifications and other materials in GDOT's possession, including materials submitted by DB Team to GDOT (whether directly or indirectly), are subject to the provisions of the Open Government Laws, subject only to certain exceptions and exemptions contained therein. DB Team also acknowledges that, pursuant to O.C.G.A. § 50-18-70(a), "records received or maintained by a private person, firm, corporation, or other private entity in the performance of a service or function for or on behalf of an agency, a public agency, or a public office shall be subject to disclosure to the same extent that such records would be subject to disclosure if received or maintained by such agency, public agency, or public office." If DB Team believes information or materials submitted or otherwise made available to GDOT constitute trade secrets, proprietary information or other information that is not subject to the Open Government Laws or is excepted from disclosure under the Open Government Laws, DB Team shall be solely responsible for specifically and conspicuously designating that information by placing "CONFIDENTIAL" in the center header of each such document or page affected, as it determines to be appropriate. Any specific proprietary information, trade secrets or confidential commercial and financial information shall be clearly identified as such, and shall be accompanied by a concise statement of reasons supporting the claim. Nothing contained in this Article 22.3.1 shall modify or amend requirements and obligations imposed on GDOT by the

Open Government Laws or other applicable Law, and the provisions of the Open Government Laws or other Laws shall control in the event of a conflict between the procedures described above and the applicable Law. DB Team is advised to contact legal counsel concerning such Law and its application to DB Team.

22.3.2 If GDOT receives a request for public disclosure of materials marked "CONFIDENTIAL," GDOT (as the case may be) will endeavor to notify DB Team of the request. DB Team may seek a protective order or other appropriate remedy. If GDOT determines in good faith that the materials identified as "CONFIDENTIAL" are not exempt from the Open Government Laws, GDOT will release the requested information within the applicable statutory time period, unless otherwise directed by an order of a court of competent jurisdiction. GDOT shall make the final determination regarding whether the requested information is to be disclosed or withheld.

22.3.3 In the event of any proceeding or litigation concerning the disclosure of any material submitted by DB Team to GDOT, DB Team shall be fully responsible for otherwise prosecuting or defending any action concerning the materials at its sole cost and risk; provided, however, that the Attorney General of the State shall represent GDOT who will participate in the litigation in such manner as they each may deem necessary or desirable. Except in the case of GDOT's voluntary intervention in litigation, DB Team shall pay and reimburse GDOT (as the case may be) within thirty (30) days after receipt of written demand and reasonable supporting documentation for all costs and fees, including attorneys' fees and costs, GDOT incurs in connection with any litigation, proceeding or request for disclosure.

22.3.4 Reserved

22.4 Intellectual Property

22.4.1 All Proprietary Intellectual Property, including with respect to Technology Enhancements, Source Code and Source Code Documentation, shall remain exclusively the property of DB Team or its Affiliates or Contractors that supply the same, notwithstanding any delivery of copies thereof to GDOT.

22.4.2 GDOT shall have and is hereby granted a nonexclusive, transferable, irrevocable, fully paid up right and license to use, reproduce, modify, adapt and disclose, and sublicense others to use, reproduce, modify, adapt and disclose, the Proprietary Intellectual Property of DB Team, including with respect to Technology Enhancements, Source Code and Source Code Documentation, solely in connection with the Project and any Highway, tolled or not tolled, owned and operated by GDOT or a State or regional Governmental Entity.

22.4.3 Subject to the license and rights granted to GDOT pursuant to Article 22.4.2, GDOT shall not at any time sell any Proprietary Intellectual Property of DB Team or use, reproduce, modify, adapt and disclose, or allow any party to use, reproduce, modify, adapt and disclose, any such Proprietary Intellectual Property for any other purpose not consistent with Article 22.4.2 above.

22.4.4 The right to transfer the license is limited to any Governmental Entity that succeeds to the power and authority of GDOT generally or with respect to the Project.

22.4.5 The right to sublicense is limited to State or regional Governmental Entities that own or operate a Highway or other road, tolled or not tolled, and to the concessionaires,

contractors, subcontractors, employees, attorneys, consultants and agents that are retained by or on behalf of GDOT or any such State or regional Governmental Entity in connection with the Project or another Highway or other road, tolled or untolled. All such sublicenses shall be subject to Article 22.4.6.

22.4.6 Subject to Article 22.3, GDOT shall:

22.4.6.1 Not disclose any Proprietary Intellectual Property of DB Team to any Person other than authorized transferees and sublicensees who agree to be bound by any confidentiality obligations of GDOT relating thereto;

22.4.6.2 Enter into a commercially reasonable confidentiality agreement if requested by DB Team with respect to the licensed Proprietary Intellectual Property; and

22.4.6.3 Include, or where applicable require such State or regional Governmental Entity to include, in the contract with the sublicensee its covenant to employ sound business practices no less diligent than those used for its own confidential information, and no less diligent than required by commercially reasonable standards of confidentiality, to protect all Proprietary Intellectual Property of DB Team and other materials provided under the sublicense against disclosure to third parties not in receipt of a sublicense, and to use the sublicense only for the permitted purposes.

22.4.7 Notwithstanding any contrary provision of the DB Documents, in no event shall GDOT or any of their respective directors, officers, employees, consultants or agents be liable to DB Team, any Affiliate or any Contractor for any damages, including loss of profit, arising out of breach of the duty of confidentiality set forth in Article 22.4.6 if such breach is not the result of gross negligence or intentional misconduct or is required under the provisions of the Open Government Records Law or a court order or other legal requirement.

22.4.8 DB Team shall continue to have a full and complete right to use any and all duplicates or other originals of its Proprietary Intellectual Property in any manner it chooses.

22.4.9 With respect to any Proprietary Intellectual Property, including with respect to Technology Enhancements, Source Code and Source Code Documentation, owned by a Person other than DB Team, including any Affiliate, and other than GDOT or a Governmental Entity acting as a Contractor, DB Team shall obtain from such owner, concurrently with execution of any contract, subcontract or purchase order with such owner or with the first use or adaptation of the Proprietary Intellectual Property in connection with the Project, for DB Team, and GDOT, nonexclusive, transferable, irrevocable, fully paid up licenses to use, reproduce, modify, adapt and disclose such Proprietary Intellectual Property solely in connection with the Project and any Highway, tolled or not tolled, owned and operated by GDOT or a State or regional Governmental Entity, of at least identical scope, purpose, duration and applicability as the license granted under Article 22.4.1. The foregoing requirement shall not apply, however, to mass-marketed software products (sometimes referred to as “shrink wrap software”) owned by such a Person where such a license cannot be extended to GDOT using commercially reasonable efforts. The limitations on sale, transfer, sublicensing and disclosure by GDOT set forth in Articles 22.4.3 through 22.4.6 shall also apply to GDOT’s licenses in such Proprietary Intellectual Property.

22.5 Reserved

Article 23 RESERVED

Article 24 MISCELLANEOUS

24.1 Taxes

DB Team shall pay, prior to delinquency, all applicable Taxes. DB Team shall have no right to a Compensation Event or any other Claim due to its misinterpretation of Laws respecting Taxes or incorrect assumptions regarding applicability of Taxes.

24.2 Amendments

The DB Documents may be amended only by a written instrument duly executed by the Parties or their respective successors or assigns, except to the extent expressly provided otherwise in this Agreement.

24.3 Waiver

24.3.1 No waiver of any term, covenant or condition of this Agreement or the other DB Documents shall be valid unless in writing and signed by the obligee Party.

24.3.2 The exercise by a Party of any right or remedy provided under this Agreement or the other DB Documents shall not waive or preclude any other or further exercise thereof or the exercise of any other right or remedy. No waiver by any Party of any right or remedy under this Agreement or the other DB Documents shall be deemed to be a waiver of any other or subsequent right or remedy under this Agreement or the other DB Documents. The consent by one Party to any act by the other Party requiring such consent shall not be deemed to render unnecessary the obtaining of consent to any subsequent act for which consent is required, regardless of whether similar to the act for which consent is given.

24.3.3 Except as provided otherwise in the DB Documents, no act, delay or omission done, suffered or permitted by one Party or its agents shall be deemed to waive, exhaust or impair any right, remedy or power of such Party hereunder, or to relieve the other Party from the full performance of its obligations under this Agreement or the other DB Documents.

24.3.4 Either Party's waiver of any breach or failure to enforce any of the terms, covenants, conditions or other provisions of the DB Documents at any time shall not in any way limit or waive that Party's right thereafter to enforce or compel strict compliance with every term, covenant, condition or other provision, any course of dealing or custom of the trade notwithstanding. Furthermore, if the Parties make and implement any interpretation of the DB Documents without documenting such interpretation by an instrument in writing signed by both Parties, such interpretation and implementation thereof will not be binding in the event of any future Disputes.

24.3.5 Subject to Article 13.2.8, the acceptance of any payment or reimbursement by a Party shall not waive any preceding or then-existing breach or default by the other Party of any term, covenant or condition of this Agreement or the other DB Documents, other than the other Party's prior failure to pay the particular amount or part thereof so accepted, regardless of the paid party's knowledge of such preceding or then-existing breach or default at the time of acceptance of such payment or reimbursement. Nor shall such acceptance continue, extend or

affect: (a) the service of any notice, any Claims or final judgment; (b) any time within which the other Party is required to perform any obligation; or (c) any other notice or demand.

24.4 Independent Contractor

24.4.1 DB Team is an independent contractor, and nothing contained in the DB Documents shall be construed as constituting any relationship with GDOT other than that of an independent contractor under this Agreement.

24.4.2 Nothing in the DB Documents is intended or shall be construed to create any partnership, joint venture or similar relationship between GDOT and DB Team; and in no event shall either Party take a position in any tax return or other writing of any kind that a partnership, joint venture or similar relationship exists. While the term "public-private partnership" may be used on occasion to refer to contractual relationships of the type hereby created, the Parties do not thereby express any intention to form or hold themselves out as a *de jure* or *de facto* partnership, joint venture or similar relationship, to share net profits or net losses, or to give GDOT control or joint control over DB Team's financial decisions or discretionary actions concerning the Project and Work.

24.4.3 In no event shall the relationship between GDOT and DB Team be construed as creating any relationship whatsoever between GDOT and DB Team's employees. Neither DB Team nor any of its employees is or shall be deemed to be an employee of GDOT. Except as otherwise specified in the DB Documents, DB Team has sole authority and responsibility to employ, discharge and otherwise control its employees and has complete and sole responsibility as a principal for its agents, for all Contractors and for all other Persons that DB Team or any Contractor hires to perform or assist in performing the Work.

24.5 Successors and Assigns

The DB Documents shall be binding upon and inure to the benefit of GDOT and DB Team and their permitted successors, assigns and legal representatives.

24.6 Designation of Representatives; Cooperation with Representatives

24.6.1 GDOT and DB Team shall each designate an individual or individuals who shall be authorized to make decisions and bind the Parties on matters relating to the DB Documents ("Authorized Representative"). In addition, for purposes of Project administration and oversight to be performed by GDOT as provided in this Agreement, GDOT shall designate an individual or individuals who shall be authorized to make decisions and bind GDOT and upon such person(s) direction DB Team may rely. Exhibit 22 provides the initial Authorized Representative designations. A Party may change such designations by a subsequent writing delivered to the other Party in accordance with Article 24.11. For purposes of this Agreement, the Parties, except where expressly stated to the contrary, all communications and deliveries, including submittals, shall be through the respective Authorized Representative for each party.

24.6.2 DB Team shall cooperate with GDOT and all representatives of GDOT designated as described above.

24.7 Survival

DB Team's and GDOT's representations, covenants, warranties, the express obligations of the Parties following termination, and all other provisions which by their inherent character should survive expiration or earlier termination of this Agreement and/or completion of the Work shall survive the expiration or earlier termination of this Agreement and/or the completion of the Work.

24.8 Limitation on Third Party Beneficiaries

24.8.1 It is not intended by any of the provisions of the DB Documents to create any third party beneficiary hereunder or to authorize anyone not a Party hereto to maintain a suit for personal injury or property damage pursuant to the terms or provisions hereof, except to the extent provided in Article 24.9.2 and other specific provisions (such as the warranty and indemnity provisions) that identify third parties and state that they are entitled to benefits hereunder. Except as otherwise provided in this Article 24.8, the duties, obligations and responsibilities of the Parties to the DB Documents with respect to third parties shall remain as imposed by Law. The DB Documents shall not be construed to create a contractual relationship of any kind between GDOT and a Contractor or any Person other than DB Team.

24.8.2 GDOT shall be a third party beneficiary, and entitled to the benefits, with respect to the rights under the DB Documents related to the following:

24.8.2.1 Oversight, review, inspection, testing, monitoring, acceptance, and enforcement of DB Team's obligations to perform the design and construction of the Project in accordance with the DB Documents and applicable Law.

24.8.2.2 Review, audit, inspection and copying of data, information, documents, books and records of DB Team and any other DB Team-Related Entity.

24.8.2.3 Step in rights upon the occurrence of a DB Team Default.

24.9 No Personal Liability of GDOT Employees; No Tort Liability

24.9.1 GDOT's officers, employees, representatives are acting solely as agents and representatives of such respective entities, as applicable, when carrying out the provisions of or exercising the power or authority granted to them under this Agreement and the DB Documents. They shall not be liable either personally or as employees of GDOT for actions in their ordinary course of employment.

24.9.2 The Parties agree to provide to each other with written notice of any claim which such Party may receive from any third party relating in any way to the matters addressed in this Agreement, and shall otherwise provide notice in such form and within such period as is required by Law.

24.10 Governing Law

The DB Documents shall be governed by and construed in accordance with the laws of the State of Georgia.

24.11 Notices and Communications

24.11.1 Notices under the DB Documents shall be in writing and: (a) delivered personally; (b) sent by certified mail, return receipt requested; (c) sent by a recognized overnight mail or courier service, with delivery receipt requested, or (d) sent by facsimile or email communication followed by a hard copy and with receipt confirmed by telephone, to the following addresses (or to such other address as may from time to time be specified in writing by such Person):

24.11.2 All notices, correspondence and other communications to DB Team shall be delivered to the following address or as otherwise directed by DB Team's Authorized Representative:

_____
_____
_____
Telephone: _____
Facsimile: _____
E-mail: _____

24.11.3 All notices, correspondence and other communications to GDOT shall be marked as regarding the "FY 17 Bridge Replacement Project" and shall be delivered to the following address or as otherwise directed by GDOT's Authorized Representative:

Darryl D. VanMeter, P.E.
Georgia Department of Transportation
Office of Innovative Delivery
600 West Peachtree Street, Floor 19
Atlanta, Georgia 30308

In addition, copies of all notices regarding Disputes, and termination and default notices shall be delivered to the following person:

Georgia Department of Transportation
Office of General Counsel
600 West Peachtree Street, Suite 2300
Atlanta, Georgia 30308

24.11.4 Notices shall be deemed received when actually received in the office of the addressee (or by the addressee if personally delivered) or when delivery is refused, as shown on the receipt of the U.S. Postal Service, private carrier or other Person making the delivery. Notwithstanding the foregoing, notices sent by facsimile after 12:00 p.m. Eastern Standard or Daylight Time (as applicable) and all other notices received after 12:00 p.m. shall be deemed received on the first Business Day following delivery (that is, in order for a fax to be deemed received on the same day, at least the first page of the fax must have been received before 12:00 p.m.). Any technical or other communications pertaining to the Work shall be conducted by DB Team's Authorized Representative and technical representatives designated by GDOT.

24.12 Integration of DB Documents

GDOT and DB Team agree and expressly intend that, subject to Article 24.13, this Agreement, and other DB Documents constitute a single, non-severable, integrated agreement whose terms are interdependent and non-divisible.

24.13 Severability

24.13.1 If any clause, provision, section or part of this Agreement or the other DB Documents or any other Principal Project Document (other than the Design-Build Contract) is ruled invalid (including invalid due to Change in Law) by a court having proper jurisdiction, then the Parties shall: (a) promptly meet and negotiate a substitute for such clause, provision, section or part, which shall, to the greatest extent legally permissible, effect the original intent of the Parties; and (b) if necessary or desirable, apply to the court or other decision maker (as applicable) which declared such invalidity for an interpretation of the invalidated portion to guide the negotiations. The invalidity or unenforceability of any such clause, provision, section or part shall not affect the validity or enforceability of the balance of the DB Documents or such other Principal Project Documents, which shall be construed and enforced as if the DB Documents or such other Principal Project Documents did not contain such invalid or unenforceable clause, provision, section or part.

24.13.2 If after the efforts required by Article 24.13.1, the Parties mutually agree that without the section or part of the DB Documents or such other Principal Project Documents that the court ruled to be invalid, there is no interpretation or reformation of the DB Documents or such other Principal Project Documents that can reasonably be adopted which will return the Parties to the benefits of their original bargain, the Parties can mutually agree to treat the court order as a Termination by Court Ruling pursuant to Article 19.11.

24.14 Headings

The captions of the sections of this Agreement and in the DB Documents are for convenience only and shall not be deemed part of this Agreement or the DB Documents or considered in construing this Agreement or the DB Documents.

24.15 Construction and Interpretation of the DB Documents

24.15.1 The language in all parts of the DB Documents shall in all cases be construed simply, as a whole and in accordance with its fair meaning and not strictly for or against any Party. The Parties hereto acknowledge and agree that the DB Documents are the product of an extensive and thorough, arm's length exchange of ideas, questions, answers, information and drafts during the Proposal preparation process, that each Party has been given the opportunity to independently review the DB Documents with legal counsel, and that each Party has the requisite experience and sophistication to negotiate, understand, interpret and agree to the particular language of the provisions of the DB Documents. Accordingly, in the event of an ambiguity in or Dispute regarding the interpretation of the DB Documents, the DB Documents shall not be interpreted or construed against the Party preparing it, and instead other rules of interpretation and construction shall be utilized. GDOT's final answers to the questions posed during the Proposal preparation process for this Agreement shall in no event be deemed part of the DB Documents and shall not be relevant in interpreting the DB Documents except as they may clarify provisions otherwise considered ambiguous.

24.15.2 The captions of the articles, sections and subsections herein are inserted solely for convenience and under no circumstances are they or any of them to be treated or construed as part of this instrument.

24.15.3 References in this instrument to this "Agreement" mean, refer to and include this instrument as well as any riders, exhibits, addenda and attachments hereto (which are hereby incorporated herein by reference) or other documents expressly incorporated by reference in this instrument. Any references to any covenant, condition, obligation and/or undertaking "herein," "hereunder" or "pursuant hereto" (or language of like import) mean, refer to and include the covenants, conditions, obligations and undertakings existing pursuant to this instrument and any riders, exhibits, addenda, attachments or other documents affixed to or expressly incorporated by reference in this instrument. All terms defined in this instrument shall be deemed to have the same meanings in all riders, exhibits, addenda, attachments or other documents affixed to or expressly incorporated by reference in this instrument unless the context thereof clearly requires the contrary. Unless expressly provided otherwise, all references to exhibits, articles and sections refer to same as set forth in this Agreement. Where a specific section is referenced, such reference shall include all subsections thereunder. Unless otherwise stated in this Agreement or the other DB Documents, words that have well-known technical or construction industry meanings are used in this Agreement or the other DB Documents in accordance with such recognized meaning. All references to a subsection or clause "above" or "below" refer to the denoted subsection or clause within the section in which the reference appears. Wherever the word "including," "includes" or "include" is used in the DB Documents, it shall be deemed to be followed by the words "without limitation". Wherever reference is made in the DB Documents to a particular Governmental Entity, it includes any public agency succeeding to the powers and authority of such Governmental Entity.

24.15.4 As used in this Agreement and the other DB Documents and as the context may require, the singular includes the plural and vice versa, and the masculine gender includes the feminine and vice versa.

24.16 Usury Savings

The DB Documents are subject to the express condition that at no time shall either Party be obligated or required to pay interest on any amount due the other Party at a rate which could subject the other Party to either civil or criminal liability as a result of being in excess of the maximum non-usurious interest rate permitted by Georgia Law (the "maximum legal rate"), if any. If, by the terms of the DB Documents either Party at any time is obligated to pay interest on any amount due in excess of the maximum legal rate, then such interest shall be deemed to be immediately reduced to the maximum legal rate and all previous payments in excess of the maximum legal rate shall be deemed to have been payments in reduction of the principal amount due and not on account of the interest due. All sums paid or agreed to be paid to a Party for the use, forbearance, or detention of the sums due that Party under the DB Documents shall, to the extent permitted by applicable Georgia Law, be amortized, prorated, allocated, and spread throughout the full period over which the interest accrues until payment in full so that the rate or amount of interest on account of the amount due does not exceed the maximum legal rate in effect from time to time during such period. If after the foregoing adjustments a Party still holds interest payments in excess of the maximum legal rate, it shall promptly refund the excess to the other Party.

24.17 Acceptance under DB Documents

24.17.1 Refer to Articles 6.3.3 and 6.3.4 regarding the standards for GDOT acceptance or consent.

24.17.2 In all cases where acceptance or consents are required to be provided under the DB Documents by DB Team and no particular standard for such acceptance or consents is expressly provided, such acceptance or consents shall not be unreasonably withheld or delayed. In cases where sole discretion is specified, DB Team's decision shall be final, binding and not subject to GDOT Standard Specification 105.13 "Claims for Adjustments and Disputes" hereunder.

24.18 Entire Agreement

This Agreement and the other DB Documents contain the entire understanding of the Parties with respect to the subject matter thereof and supersede all prior agreements, understandings, statements, representations and negotiations between the Parties with respect to their subject matter.

24.19 Counterparts

This instrument may be executed in two or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument.

CALL ###

CONTRACT IDENTIFICATION NUMBER	DATE CONTRACT EXECUTED
XXXX	
PROJECT NUMBER(S)	COUNTY(IES)
XXXXXXX	County
CONTRACTOR	
Contractor Name	
DESCRIPTION OF IMPROVEMENTS AND FACILITY	
Project Name	
AMOUNT OF CONTRACT	
$	

[Signature Page Immediately Follows]

IN WITNESS WHEREOF, the Parties, intending to be legally bound, have executed this Agreement, including the requirements of the DB Documents.

ALL REFERENCES in this document, which include all papers, writings, documents, drawings, or photographs used, or to be used, in connection with this document, to "State Highway Department of Georgia", "State Highway Department", "Georgia State Highway Department", "Highway Department", "Department", or "Department of Transportation" when the context thereof means that State Highway Department of Georgia, mean, and shall be deemed to mean, GDOT.

THIS AGREEMENT is being executed on the Date Contract Executed, specified above, in Fulton County, Georgia.

IN WITNESS WHEREOF THE PARTIES HAVE SET THEIR HANDS AND AFFIXED THEIR SEALS:

PARTY OF THE FIRST PART

DEPARTMENT OF TRANSPORTATION, STATE OF GEORGIA

WITNESS

ATTESTED BY TREASURER, GEORGIA DOT

WITNESS

BY COMMISSIONER

PARTY OF THE SECOND PART

I attest that the seal imprinted hereon is the corporate seal of the Contractor named above and that the signature which appears hereon is genuine and is that of the President (Vice President) of the corporation who is duly authorized to execute the foregoing document on behalf of the corporation; and that the execution of the foregoing document on behalf of the corporation has been duly authorized.

CORPORATE CONTRACTOR (1)

Company Name (1)

(SEAL)

BY PRESIDENT OR VICE PRESIDENT (1)

THIS DAY OF

BY SECRETARY OR ASSISTANT SECRETARY (1)

(SEAL) (SEAL)

I attest that the seal imprinted hereon is the corporate seal of the Contractor named above and that the signature which appears hereon is genuine and is that of the President (Vice President) of the corporation who is duly authorized to execute the foregoing document on behalf of the corporation; and that the execution of the foregoing document on behalf of the corporation has been duly authorized.

CORPORATE CONTRACTOR (2)

Company Name (2)

(SEAL)

BY PRESIDENT OR VICE PRESIDENT (2)

THIS DAY OF

BY SECRETARY OR ASSISTANT SECRETARY (2)

(SEAL) (SEAL)

WITNESS (1)

INDIVIDUAL OR PARTNERSHIP CONTRACTOR (1)

(SEAL) (SEAL)

WITNESS (1)	BY OWNER OR PARTNER (1)
(SEAL)	(SEAL)
WITNESS (2)	INDIVIDUAL OR PARTNERSHIP CONTRACTOR (2)
(SEAL)	(SEAL)
WITNESS (2)	BY OWNER OR PARTNER (1)
(SEAL)	(SEAL)

EXHIBIT 1

ABBREVIATIONS AND DEFINITIONS

Unless otherwise specified, wherever the following abbreviations or terms are used in this Agreement and the Technical Provisions, they have the meanings set forth below:

AASHTO	American Association of State Highway and Transportation Officials
ADA	Americans with Disabilities Act
AGC	Associated General Contractors of America
AMRL	AASHTO Materials Reference Laboratory
ANSI	American National Standards Institute
APE	Area of Potential Effects
ARC	Atlanta Regional Commission
AREMA	American Railway Engineering and Maintenance of Way Association
ASTM	American Society of Testing and Materials
ATC	Alternative Technical Concept
AVI	Automatic Vehicle Identification
AWS	American Welders Society
BMP	Best Management Practice
CAD	Computer Aided Design
CCTV	Closed Circuit Television
CE	Categorical Exclusion
CFR	Code of Federal Regulations
CMS	Changeable Message Sign
CPI	Consumer Price Index
CQMP	Construction Quality Management Plan
CSC	Customer Service Center
CSJ	Control Section Job
CWA	Clean Water Act
DB	Design-Build
DBE	Disadvantaged Business Enterprise, as set forth in 49 CFR Part 26
DEIS	Draft Environmental Impact Statement
DMS	Dynamic Message Signs
DNR	Georgia Department of Natural Resources
DQMP	Design Quality Management Plan
DSS	Decent, Safe and Sanitary
EA	Environmental Assessment
EP	Extraction Procedure (toxicity)
EPD	Georgia Department of Natural Resources, Environmental Protection Division
EPIC	Environmental Permits Issues and Commitments
ESA	Endangered Species Act of 1973, 16 U.S.C. §§ 1531 *et seq.*, as amended from time to time

ETCS	Electronic Toll Collection System
FAA	Federal Aviation Administration
FAPG	Federal-Aid Policy Guide
FEMA	Federal Emergency Management Agency
FHWA	U.S. Federal Highway Administration
FEIS	Final Environmental Impact Statement
FONSI	Finding of No Significant Impact
FTP	File Transfer Protocol
FWCA	Fish and Wildlife Coordination Act, 16 U.S.C. §§661 *et seq*., as amended from time to time
GDOT	Georgia Department of Transportation
GEPA	Georgia Environmental Policy Act, Section 12-16-1, et seq. of the Official Code of Georgia Annotated
GIS	Geographical Information System
GP	General Purpose
HEC-FFA	Hydraulic Engineering Circular – Flood Frequency Analysis
HCR	Highway Conditions Report
HOT	High Occupancy/Toll
HOV	High Occupancy Vehicle
ICD	Interface Control Document
ID	Form of Identification
IH	Interstate Highway
IRI	International Roughness Index
ISO	International Organization for Standardization
ITS	Intelligent Transportation System
IVHS	Intelligent Vehicle Highway System
IWP	Investigative Work Plan
LCS	Lane Control System
MARTA	Metropolitan Atlanta Rapid Transit Authority
MDS	Microwave Detection System
MOA	Memorandum of Agreement
MOT	Maintenance of Traffic
MOU	Memorandum of Understanding
MPH	Miles Per Hour
MPO	Metropolitan Planning Organization
MS4	Municipal Separate Storm Sewer System
MSDS	Materials Safety Data Sheets
MSE	Mechanically Stabilized Earth
MUTCD	Manual of Traffic Control Devices
NAVD	North American Vertical Datum
NBIS	National Bridge Inspection Standards

NCHRP	National Cooperative Highway Research Program
NEPA	National Environmental Policy Act, 42 U.S.C. § 4321 *et seq*., as amended from time to time
NFIP	National Flood Insurance Program
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resource Conservation Service
NRHP	National Register of Historic Places
NTP	Notice to Proceed
OCGA	Official Code of Georgia Annotated
OCR	Optical Character Recognition
ORT	Open Road Toll
OSAH	Georgia Office of State Administrative Hearings
OSHA	Occupational Safety and Health Administration
OVT	Owner Verification Tests
PA	Programmatic Agreement
PACES	Pavement Condition Evaluation System
PICP	Public Information and Communications Plan
PLS (or RPLS)	Registered Professional Land Surveyor
PQMP	Project Quality Management Plan
PUA	Possession and Use Agreement
QMP	Quality Management Plan
RFC	Release for Construction
RFI	Request for Information
RFQ	Request for Qualifications
RFP	Request for Proposals
RLM	Residual Life Methodology
ROD	Record of Decision
ROW	Right of Way
ROW AM	Right of Way Acquisition Manager
ROWIS	Right of Way Information System
RTF	Related Transportation Facilities
SDPP	Special Deposit and Possession Procedure
SDEIS	Supplemental Draft Environmental Impact Statement
SH	State Highway
SHPO	State Historic Preservation Officer
SOQ	Statement of Qualifications
SOV	Single Occupancy Vehicle
SSTR	Single Slope Traffic Railing

SRTA	State Road and Tollway Authority
STA	State Transportation Agency
SUA	Standard Utility Agreement
SUE	Subsurface Utility Engineering
TCLP	Toxicity Characteristic Leaching Procedure
TMC	Traffic Management Center
TMP	Transportation Management Plan
TOC	Toll Operations Center
UAM	Utility Accommodation Manual
UCS	User Classification Subsystem
UDC	Utility Design Coordinator
UJUA	Utility Joint Use Acknowledgment or Utility Joint Use Agreement
UM	Utility Manager
US	United States Highway
USACE	United States Army Corps of Engineers
U.S. DOT	United States Department of Transportation
USFWS	United States Fish and Wildlife Service
U.S. GAAP	U.S. Generally Accepted Accounting Principles
USPAP	Uniform Standard of Professional Appraisal Practices
UTM	Universal Transverse Mercator
VDS	Video Detection System
VES	Video Exception Sub-system
WBS	Work Breakdown Structure
WECS	Worksite Erosion Control Supervisor
WTCS	Worksite Traffic Control Supervisor
WUCS	Worksite Utility Coordination Supervisor

Abandonment means that Design-Build Team abandons all or a material part of the Project, which abandonment shall have occurred if (a) Design-Build Team demonstrates through acts or omissions an intent not to continue, for any reason other than a Relief Event that materially interferes with ability to continue, to construct or operate all or a material part of the Project and (b) no significant Work (taking into account the Project Baseline Schedule, if applicable, and any Relief Event) on the Project or a material part thereof is performed for a continuous period of more than forty five (45) days.

Addenda/Addendum means supplemental additions, deletions, and modifications to the provisions of the RFP after the release of the draft RFP.

Additional Properties means those parcels or portions of property proposed by Design-Build Team in addition to the ROW or otherwise contiguous to the Property and to be used for Project or in connection with the construction thereof, all as expressly designated as "Additional Properties" within the Right of Way Acquisition Plan. Additional Properties shall not include any Project Specific Locations.

Adjust means to perform a Utility Adjustment.

Administrative Information Submittals means those submittals Proposers are required to submit with their respective Proposal.

Adjustment means a Utility Adjustment.

Adjustment Standards means the standard specifications, standards of practice, and construction methods that a Utility Owner customarily applies to facilities (comparable to those being Adjusted on account of the Project) constructed by the Utility Owner (or for the Utility Owner by its contractors), at its own expense. Unless the context requires otherwise, references in the DB Documents to a Utility Owner's "applicable Adjustment Standards" refer to those that are applicable pursuant to Article 7.5.3 of the Agreement.

Affiliate means:

(a) any shareholder, member, partner or joint venture member of Design-Build Team,

(b) any Person which directly or indirectly through one or more intermediaries controls, or is controlled by, or is under common control with, Design-Build Team or any of its shareholders, members, partners or joint venture members; and

(c) any Person for which ten percent (10%) or more of the equity interest in such Person is held directly or indirectly, beneficially or of record by (i) Design-Build Team, (ii) any of Design-Build Team's shareholders, members, partners or joint venture members or (iii) any Affiliate of Design-Build Team under clause (b) of this definition.

For purposes of this definition the term "control" means the possession, directly or indirectly, of the power to cause the direction of the management of a Person, whether through voting securities, by contract, family relationship or otherwise.

Affidavit of Property Interest means the form of documentation of Existing Utility Property Interests described in Section 6.2.4 of the Technical Provisions.

Age means the elapsed time since an Element was first constructed or installed or, if applicable, last reconstructed, rehabilitated, restored, renewed or replaced.

Agreement, **DBA**, or **DB Agreement** means this certain Design-Build Agreement executed by GDOT and Design-Build Team, including any and all exhibits, attachments, riders, and amendments thereto.

Alternative Technical Concept ("ATC") means an alternative technical concept proposed by Design-Build Team pursuant to the terms set forth in the RFP.

Apparent Successful Proposer means the Proposer with the apparent Successful Proposer, taking into consideration the evaluation criteria and procedures.

Area of Potential Effects means the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of Historic Properties, if such properties exist.

Authorized Representative has the meaning set forth in Article 24.6.1 of the Agreement, and shall be applicable person(s) and/or party(ies) authorized to act on behalf of each of GDOT and the Design-Build Team respectively, as initially set forth pursuant to Exhibit 22 of the Agreement. All notices, deliveries, responses, approvals, and other communications among GDOT and/or the Design-Build Team shall be directed to the respective Authorized Representative for each of the aforementioned, unless expressly provided to the contrary in this Agreement.

Best Management Practices (BMP) has the meaning set forth in *Storm Water Management For Construction Activities: Developing Pollution Prevention Plans and Best Management Practices* (EPA Document 832 R 92-005).

Best Value Proposal means the Proposal meeting the standards set by the RFP that GDOT determines, through the evaluation process and evaluation criteria described in this ITP, to present the best value and to be in the best interest of GDOT and the State.

Betterment has, with respect to a given Utility being Adjusted, the meaning (if any) set forth in the Utility Agreement(s) applicable to the Utility; in all other cases, "Betterment" means any upgrading of the Utility in the course of such Utility Adjustment that is not attributable to the construction of the Project and is made solely for the benefit of and at the election of the Utility Owner, including an increase in the capacity, capability, efficiency or function of an Adjusted Utility over that which was provided by the existing Utility. Notwithstanding the foregoing, the following are not considered Betterments unless otherwise provided in the applicable Utility Agreement(s):

(a) any upgrading which is required for accommodation of the Project;

(b) replacement devices or materials that are of equivalent standards although not identical;

(c) replacement of devices or materials no longer regularly manufactured with an equivalent or next higher grade or size;

(d) any upgrading required by applicable Law;

(e) replacement devices or materials that are used for reasons of economy (e.g., non-stocked items may be uneconomical to purchase); and

(f) any upgrading required by the Utility Owner's applicable Adjustment Standards.

With respect to any Replacement Utility Property Interest, "**Betterment**" has the meaning (if any) set forth in the applicable Utility Agreement(s). In all other cases, a Replacement Utility Property Interest shall be considered a Betterment, except to the extent that reinstallation of a Utility in the Replacement Utility Property Interest (i) is necessary in order to meet the requirements of the DB Documents, or (ii) is called for by Design-Build Team in the interest of overall economy for the Project.

Business Day means any day on which GDOT is officially open for business.

Change in Law means (a) the adoption of any Law after the date that is ninety (90) days prior to the Proposal Due Date, or (b) any change, amendment to, repeal or revocation of any Law or in the interpretation or application thereof by any Governmental Entity after the date that is ninety (90) days prior to the Proposal Due Date, in each case that is materially inconsistent with Laws in effect ninety (90) days prior to the Proposal Due Date; excluding, however, any such Change in or new Law that also constitutes or causes a change in or new Adjustment Standards, as well as any change in or new Law passed or adopted but not yet effective as of the date that is ninety (90) days prior to the Proposal Due Date.

Change of Control means any assignment, sale, financing, grant of security interest, transfer of interest or other transaction of any type or description, including by or through voting securities, asset transfer, contract, merger, acquisition, succession, dissolution, liquidation or otherwise, that results, directly or indirectly, in a change in possession of the power to direct or control or cause the direction or control of the management of Design-Build Team or a material aspect of its business. A change in the power to direct or control or cause the direction or control of the management of a shareholder, member, partner or joint venture member of Design-Build Team may constitute a Change of Control of Design-Build Team if such shareholder, member, partner or joint venture member possesses the power to direct or control or cause the direction or control of the management of Design-Build Team. Notwithstanding the foregoing, the following shall not constitute a Change of Control:

(a) A change in possession of the power to direct or control the management of Design-Build Team or a material aspect of its business due solely to a bona fide open market transactions in securities effected on a recognized public stock exchange, including such transactions involving an initial public offering;

(b) A change in possession of the power to direct or control the management of Design-Build Team or a material aspect of its business due solely to a bona fide transaction involving beneficial interests in the ultimate parent organization of a shareholder, member, partner or joint venture member of Design-Build Team, (but not if the shareholder, member, partner or joint venture member is the ultimate parent organization), unless the transferee in such transaction is at the time of the transaction suspended or debarred or subject to a proceeding to suspend or debar from bidding, proposing or contracting with any federal or State department or agency;

(c) An upstream reorganization or transfer of direct or indirect interests in Design-Build Team so long as there occurs no change in the entity with ultimate power to direct or control or cause the direction or control of the management of Design-Build Team;

(d) A transfer of interests between managed funds that are under common ownership or control other than a change in the management or control of a fund that manages or controls Design-Build Team;

(e) The exercise of minority veto or voting rights (whether provided by applicable Law, by Design-Build Team's organizational documents or by related member or shareholder agreements or similar agreements) over major business decisions of Design-Build Team, provided that if such minority veto or voting rights are provided by shareholder or similar agreements, GDOT has received copies of such agreements; or

Change Order means a written approval by GDOT, counter-signed by Design-Build Team, with respect to a GDOT Change or Change Request, which shall set forth any adjustments to the DB Contract Sum and/or the Contract Time, including on account of a Relief Event or Compensation Event, as provided in the Agreement.

Change Request means a written request from Design-Build Team seeking to change the character, quantity, quality, description, scope or location of any part of the Work, to modify the DB Documents.

Chief Executive Officer of Design-Build Team means the chief executive officer, president or other senior officer of Design-Build Team, or the governing body of Design-Build Team, in each case having authority to negotiate and resolve a Dispute with the Commissioner and bind Design-Build Team by his or her decision in regard to such Dispute.

Claim means (a) a demand by Design-Build Team, which is or potentially could be disputed by GDOT, for a time extension under the DB Documents, payment of money or damages from GDOT to Design-Build Team, or for payment from GDOT of a Compensation Amount or Termination Compensation, or (b) a demand by GDOT, which is or potentially could be disputed by Design-Build Team, for payment of money or damages from Design-Build Team to GDOT.

Claimant means any Person that would be entitled to protection of payment bond under Code Section 13-10-63, including any P&P Bonds.

Code has the meaning set forth in Recital C of the Agreement.

Commissioner means the Commissioner of GDOT appointed by the State Transportation Board and any successor thereto having substantially similar powers and authority.

Communication Plan has the meaning set forth in Section 3 of the Technical Provisions.

Comparable Limited Access Highways means Highways that have full control of access, are divided, have grade separations at intersections and are in other respects substantially similar to the Project and associated facilities, as applicable. For purposes of this definition, determination of what portions of the Limited Access Highway system are

substantially similar to the Project shall be based on any one or more of similar age, design, engineering, construction, topographical features, operating systems and features, or other features or situations, and/or based on a geographical area in which Highways have been or are susceptible to being affected by a common event (such as but not limited to hurricane or tornado). The presence or absence of tolling and tolling facilities shall not be a factor in determining whether a Highway is substantially similar to the Project.

Compensation Amount means the amount of compensation to be paid to Design-Build Team for a Compensation Event as set forth and subject to the limitations of the Agreement, including Article 13.2 therein.

Compensation Event means any of the following events, subject to any limitations, claims submission requirements and other conditions set forth in the Agreement, provided that no relief will be available to the extent that (i) the events are within Design-Build Team's control, or are due to any wrongful act, wrongful omission, negligence, recklessness, willful misconduct, breach of contract or Law or violation of a Governmental Approval of any of the Design-Build Team-Related Entities; (ii) the events (or the effects of such events) could have been avoided by the exercise of reasonable caution, due diligence, or other reasonable efforts by Design-Build Team:

(a) Change in Law;

(b) Discriminatory Action;

(c) Material breach by GDOT of its material obligations under the Agreement or other DB Documents, including unreasonable failure to issue a certificate of Substantial Completion or a certificate of satisfaction of conditions precedent to Final Acceptance after Design-Build Team satisfies all applicable conditions and requirements for obtaining such a certificate;

(d) GDOT-Caused Delay, other than with respect to GDOT's failure to provide response to Design-Build Team Submittals as provided under clause (d) of the definition of a GDOT-Caused Delay;

(e) GDOT Change;

(f) A GDOT Release of Hazardous Material or remediation of Pre-Existing Hazardous Materials, but excluding the extent of any Design-Build Team Release of Hazardous Materials;

(g) Issuance by a court in a legal proceeding challenging any Approval of Environmental Documents or a temporary restraining order or other form of temporary injunction that prohibits prosecution of any material portion of the Work;

(h) Any change in the design concept of the Project or any portion thereof resulting from judicial or administrative action taken with respect to a legal challenge to any Approval of Environmental Documents as compared to the design concept indicated in the alternative that was the subject of the Approval of Environmental Documents, except to the extent the change in design concept had already been incorporated into Design-Build Team's design schematics as approved pursuant to this Agreement;

(i) Subject to clause (n) of this definition, failure to obtain, or unreasonable and unjustified delay in obtaining or otherwise maintaining once issued, a Governmental Approval from any Governmental Entity, except to the extent that such failure or delay results from failure by any Design-Build Team-Related Entity to locate or design the Project or carry out the work in accordance with the Approval of Environmental Documents or other Governmental Approval (which failure may include (i) modification by or on behalf of Design-Build Team of the design concept included in the Approval of Environmental Documents, (ii) means or methods used by any Design-Build Team-Related Entity for carrying out the Work, or (iii) decision or action by or on behalf of Design-Build Team to use or acquire Additional Property);

(j) Latent defects in Existing Improvements, resulting in costs in excess of such amounts for which Design-Build Team is responsible including as set forth in Article 7.12 of the Agreement;

(k) GDOT's (i) lack of good and sufficient title to any parcel in the Existing Right of Way or the Proposed Right of Way, to the extent it interferes with or adversely affects performance of Work, (ii) inability or failure to obtain an interest (including by easement or other right of access) to real property not identified in the Proposed Right of Way and required for construction of the Project as demonstrated by Design-Build Team, exclusive of any Additional Properties, Project Specific Locations, or parcels that are solely for the convenience of Design-Build Team, to the extent it interferes with or adversely affects performance of Work, or (iii) the existence at any time following issuance of NTP 3 of any title reservation, condition, easement or encumbrance on any parcel in the Existing Right of Way or Property owned by GDOT, of record or not of record, to the extent it interferes with or adversely affects performance of Work, except any title reservations, conditions, easements or encumbrances (A) concerning Utilities or (B) caused, permitted or suffered by a Design-Build Team-Related Entity;

(l) Discovery of subsurface or latent physical conditions at the actual boring holes identified in the geotechnical reports included in the Reference Information Documents that differ materially from the subsurface conditions indicated in such geotechnical reports at such boring holes, excluding any such conditions known to Design-Build Team prior to the Proposal Due Date;

(m) Failure to obtain, or unreasonable and unjustified delay in obtaining, an approval from GDOT with respect to a Permitted Design Exception, except to the extent that such failure or delay in obtaining the GDOT approval results from failure by any Design-Build Team-Related Entity to carry out the Work in accordance with the DB Documents; or

(n) Failure to obtain, or unreasonable and unjustified delay in obtaining, a Governmental Approval required for a re-evaluation of a Approval of Environmental Documents; provided that Design-Build Team shall only be entitled to compensation for such failure or delay after expiration of the applicable GDOT Re-evaluation Period;

(o) Performance of work in or directly adjacent to the Construction Maintenance Limits or Operations and Maintenance Limits, as well as any work by Separate Contractors within the ROW, carried out by or on behalf of GDOT or a Governmental Entity, excluding any Utility Adjustment Work by a Utility Owner, that directly disrupts Design-Build Team's onsite Work, or other documented delays to the Critical Path of the Work directly caused a Separate Contractor working on behalf of GDOT or a Governmental Entitiy, all being subject to Article 17.4.2 of the Agreement; or

(p) Material modifications to the Approval of Environmental Documents as set forth pursuant to subpart (a) of the definition of Approval of Environmental Documents as provided in Exhibit 1 hereto, as a result of the Approval of Environmental Documents, and all approved supplements and re-evaluations pertaining to the Project as of the Effective Date as provided in subpart (b) of such definition Additional Properties, or attributable to Design-Build Team's design.

Compensation Event Notice means the written notice submitted by Design-Build Team in accordance with Article 13.2 of the Agreement.

Completed Payment Activity means a Payment Activity that Design-Build Team has certified as acceptable and ready for the following activity to begin.

Conceptual Layout Plan means the schematic layout which provides alignment and lane configuration information necessary to verify lane continuity and general scope compliance for the entire Project.

Construction Commencement Date means for the date on which Design-Build Team first commences construction of the Project or such relative phase thereof.

Construction Documents means all shop drawings, working drawings, fabrication plans, material and hardware descriptions, specifications, construction quality control reports, construction quality assurance reports and samples necessary or desirable for construction of the Project and/or the Utility Adjustments included in the Construction Work, in accordance with the DB Documents.

Construction Maintenance Limits Plan means the deliverable to identify the physical boundaries of Design-Build Team's maintenance responsibilities for the Construction Work.

Construction Work means all portions of the all Work necessary to build or construct, make, form, manufacture, furnish, install, supply, deliver or equip the Project and/or the Utility Adjustments. Construction Work includes landscaping.

Construction Phase has the meaning set forth in Section 23.1 of the Technical Provisions.

Construction Phasing Plan has the meaning set forth in Section 23.1 of the Technical Provisions.

Contract means any agreement, and any supplement or amendment thereto, by either (a) Design-Build Team with any other Person or Contractor, or (b) any Contractor with any Person or Subcontractor, to perform any part of the Work or provide any materials, equipment or supplies for any part of the Work, or any such agreement, supplement or amendment at a lower tier, between a Subcontractor and its lower tier sub-subcontractor or supplier. The term "Contract" excludes Utility Agreements and any agreement with SRTA or GDOT.

Contract Item Agreement (CIA) mean an Agreement used for including Utility work in the Department's project and performed by the Department's Contractor awarded by competitive bid.

Contract Time means the time period provided for Design-Build Team's completion of the Work as provided in Article 3.3.1 of the Agreement.

Contractor means any Person, including any Subcontractor with whom Design-Build Team has entered into any Contract to perform any part of the Work or provide any materials, equipment or supplies for the Project and/or the Utility Adjustments included in the Construction Work, on behalf of Design-Build Team. The term "Contractor" excludes GDOT.

Cost to Cure means an appraisal method applied to estimate a proper adjustment for damages to a property that can be physically and economically corrected, as described in further detail in the GDOT ROW Manual.

Critical Path means the sequence of activities that must be completed on schedule for the entire Project to be completed on in accordance with the Milestone Deadlines. This is the longest duration path through the work plan, in terms of time, of logically connected activities on the Project Baseline Schedule ending with the relative Milestone Deadline in respect thereof.

CSC Host means the central computer system of SRTA or its contractor that supports customer service center account management functions for the Project.

Customer Groups means groups, Persons and entities having a perceived stake or interest in the Project, including: the media, elected officials, Governmental Entities, general public residing or working within the general vicinity of the Project or traveling within or across the limits of the Project, business owners within or adjacent to the Project corridor, Utility Owners, railroads, transportation authorities and providers, community groups, local groups (neighborhood associations, business groups, chambers of commerce, convention and visitors bureaus, contractors, etc.) and other Persons or entities affected by the Project, including those identified in Section 3.2 of the Technical Provisions.

Customer Service Center (CSC) means the facility used to service Users, including a database system that enables registration and maintenance of customer accounts.

Day or **day** means calendar day unless otherwise expressly specified.

DBE Performance Plan means Design-Build Team's plan for meeting the DBE participation goals set forth in Article 10.9.2 of the Agreement. The DBE Performance Plan is Exhibit 14 to the Agreement.

Decent, Safe and Sanitary (DSS) means the condition of a dwelling such that it meets applicable housing and occupancy codes.

Default Interest Rate means the statutory interest rate applicable to GDOT for contract payment defaults.

Default Termination Event means each of the Design-Build Team Defaults listed in Article 19.3.1 of the Agreement.

Defect means any Work that does not otherwise conform with the DB Documents, or otherwise is a defect, whether by design, construction, installation, affecting the condition, use, functionality or operation of any portion of the Work which, ordinary wear and tear excepted, would cause or have the potential to cause one or more of the following:

(a) a hazard, nuisance or other risk to public or worker health or safety, including the health and safety of Users;

(b) a structural deterioration of the affected Element or any other part of the Project;

(c) damage to a third party's property or equipment;

(d) damage to the Environment;

(e) failure of the affected Element or any other part of the Project to meet a Performance Requirement; or

(f) failure of an Element to meet the Target for a measurement record as set forth in the columns headed "Target" and "Measurement Record" in the Performance and Measurement Table Baseline.

Design-Build Agreement or **DB Agreement** means the agreement between the Proposer and GDOT requiring the Design-Build Team to design and construct the Project during the construction period.

Design-Build Contract or **DB Contract Sum** means the total contract sum to be paid to Design-Build Team on account of the fully and properly performed Work as set forth in the Agreement, as adjusted pursuant to Supplemental Agreements (including to reflect adjustments for Compensation Events or Change Orders as provided in the Agreement), including without limitation all of Design-Build Team's profit, fees, financing costs and interest expense for Design-Build Team Debt, all costs of work and services, materials, equipment, supplies, general conditions costs, overhead and administrative expenses, professional fees and subconsultant costs, acquisition and other costs associated with acquisition of any Approved Properties, insurance and bond premiums, sales taxes, assessments, tariffs, permit, license and registration fees, and all other related costs and expenses.

Design-Build Documents or **DB Documents** means those documents as set forth in Article 1.2 of the Agreement and all such other agreements entered into by GDOT and Design-Build Team or any Design-Build Team-Related Entity, or otherwise executed by Design-Build Team or a Design-Build Team-Related Entity and delivered to SRTA, with respect to or in connection with this Agreement, including without limitation Supplemental Agreements.

Design-Build Period means the period commencing with NTP 1 and ending when Design-Build Team achieves Final Acceptance.

Design-Build Team or **DB Team** means the party identified as such in the opening paragraph of this Agreement, together with its permitted successors and assigns.

Design-Build Team Default or **DB Team Default** has the meaning set forth in Article 17.1.1 of the Agreement.

Design-Build Team's Interest or **DB Team's Interest** means all right, title, and interest of Design-Build Team in, to, under or derived from the Agreement and the other DB Documents.

Design-Build Team-Related Entities or **DB Team Team-Related Entities** means (a) Design-Build Team, (b) Design-Build Team's shareholders, partners, joint venture members

and/or members, (c) the Contractor and all other Subcontractors (including Suppliers), (d) any other Persons performing any of the Work, (e) any other Persons for whom Design-Build Team may be legally or contractually responsible, and (f) the employees, agents, officers, directors, shareholders, representatives, consultants, successors and assign of any of the foregoing; provided, however, that GDOT shall be considered a Design-Build Team-Related Entity.

Design-Build Team Release(s) of Hazardous Material or **DB Team Release(s) of Hazardous Material** means (a) Release(s) of Hazardous Material, or the exacerbation of any such release(s), attributable to the culpable actions, culpable omissions, negligence, willful misconduct, or breach of applicable Law or contract by any Design-Build Team-Related Entity; (b) Release(s) of Hazardous Materials arranged to be brought onto the Site or elsewhere by any Design-Build Team-Related Entity; regardless of cause, or (c) use, containment, storage, management, handling, transport and disposal of any Hazardous Materials by any Design-Build Team-Related Entity in violation of the requirements of the DB Documents or any applicable Law or Governmental Approval

Design-Build Team Vehicle or **DB Team Vehicle** means any vehicle authorized by Design-Build Team performing construction, maintenance or operation of the Project, or other related activity.

Design Deviation means any deviation from criteria defined in the GDOT Design Policy Manual as a “guideline”. Failure to adhere to the “13 Controlling Criteria” mandated by FHWA and/or the GDOT Standard Design Criteria mandated by GDOT does not qualify as a Design Deviation.

Design Documents means all drawings (including plans, profiles, cross-sections, notes, elevations, typical sections, details and diagrams), specifications, reports, studies, calculations, electronic files, records and submittals necessary for, or related to, the design of the Project and/or the Utility Adjustments included in the Design Work and/or the Construction Work.

Design Speed means the speed used to determine the various geometric design features of the roadway.

Design Submittal Guide shall have the meaning set forth in Section 23.1 of the Technical Provisions.

Design Work means all Work of design, engineering or architecture for the Project or Utility Adjustments.

Deviation means any proposed or actual change, deviation, modification, alteration or exception from this Agreement, the Technical Provisions, Technical Documents or Governmental Approvals.

Directive Letter means the letter described in Article 14.3 of the Agreement.

Disadvantaged Business Enterprise or **DBE** has the meaning set forth 49 CFR 23 and further described in Attachment 6 to Exhibit 8 to the Agreement.

Discipline Groups has the meaning set forth in Section 23.3 of the Technical Provisions.

Discriminatory or **Discriminatory Action** means (a) materially more onerous application to Design-Build Team or the Project of changes or additions to Technical Provisions or Technical Documents than the application thereof to other Comparable Limited Access Highways, or (b) selective application of changes or additions to Technical Provisions or Technical Documents to Design-Build Team or the Project and not to other Comparable Limited Access Highways. Notwithstanding the foregoing, the following actions are not Discriminatory or Discriminatory Actions: (i) any such application in response to any act or omission by or on behalf of Design-Build Team in violation of Law or the DB Documents; (ii) Safety Compliance; (iii) any such application in response to a directive by the U.S. Department of Homeland Security or comparable State agency, unless such directive is directed solely at or solely affects the Project and such application requires specific changes in Design-Build Team's normal design, construction, operation or maintenance procedures in order to comply; and (iv) any other actions necessary to address potential safety concerns arising from a specific condition or feature peculiar to the Project.

Dispute means any Claim, dispute, disagreement or controversy between GDOT and Design-Build Team concerning their respective rights and obligations under the DB Documents, including concerning any alleged breach or failure to perform and remedies.

Dispute Resolution Procedures means the procedures for resolving Disputes set forth in Article 17.7 of the Agreement.

Early Adjustment means a Utility identified as such in Section 6 of the Volume 2.

Early Termination Date means the effective date of termination of the Agreement for any reason prior to the stated expiration Final Acceptance Deadline, as specified in the relevant provisions of Article 19.

Effective Date means the date of the Agreement or such other date as shall be mutually agreed upon in writing by GDOT and Design-Build Team.

Electronic Toll Collection System or **ETCS** means the electronic toll collection system used for the collection of tolls based on the automatic identification and classification of vehicles using electronic systems, including its components, systems and subsystems, the hardware and physical infrastructure, and the software to be incorporated into the Project.

Element means an individual component, system or subsystem of the Work, included as an independent line item as provided on the approved Schedule of Values.

Emergency means an unforeseen event affecting the Project whether directly or indirectly which (a) causes or has the potential to cause disruption to the free flow of traffic on the Project or a threat to the safety of the public; (b) is an immediate or imminent threat to the long term integrity of any part of the infrastructure of the Project, to the Environment, to property adjacent to the Project or to the safety of Users or the traveling public; or (c) is recognized by the Georgia Department of Public Safety as an emergency.

Engineer of Record mean a licensed professional engineer on the Design-Build Team who is responsible and liable for the adequacy and safety of the design. This individual will sign and seal the Released for Construction plans, as well as revisions on construction and shop drawings.

Environment means air, soils, surface waters, groundwater, land, stream sediments, surface or subsurface strata, biological resources, including endangered, threatened and sensitive species, natural systems, including ecosystems, and historic, archeological and paleontological resources.

Environmental Approvals (also Environmental Document Approvals) means all Governmental Approvals arising from or required by any Environmental Law in connection with development of the Project, including approvals and permits required under NEPA/GEPA.

Environmental Commitment (also Environmental Permits, Issues and Commitments) means an environmental requirement that must be fulfilled before, during or after construction. Environmental Commitments include commitments to avoid impacts in specified areas, complete environmental investigations before construction impacts, or to perform specified actions after completion of construction.

Environmental Documents means all required documents and submittals pertaining to either federal or state laws and permits which are necessary to complete the Project. This may include but not be limited to state and federal environmental laws.

Environmental Law means any Law applicable to the Project or the Work regulating or imposing liability or standards of conduct that pertains to the Environment, Hazardous Materials, contamination of any type whatsoever, or environmental health and safety matters, and any lawful requirements and standards that pertain to the Environment, Hazardous Materials, contamination of any type whatsoever, or environmental health and safety matters, set forth in any permits, licenses, approvals, plans, rules, regulations or ordinances adopted, or other criteria and guidelines promulgated, pursuant to Laws applicable to the Project or the Work, as such have been or are amended, modified, or supplemented from time to time (including any present and future amendments thereto and reauthorizations thereof) including those relating to:

(a) The manufacture, processing, use, distribution, existence, treatment, storage, disposal, generation, and transportation of Hazardous Materials;

(b) Air, soil, surface and subsurface strata, stream sediments, surface water, and groundwater;

(c) Releases of Hazardous Materials;

(d) Protection of wildlife, Threatened or Endangered Species, sensitive species, wetlands, water courses and water bodies, historical, archeological, and paleontological resources, vegetative buffers, and natural resources;

(e) The operation and closure of underground storage tanks;

(f) and safety of employees and other persons; and

(g) Notification, documentation, and record keeping requirements relating to the foregoing.

Without limiting the above, the term “Environmental Laws” shall also include the following:

(i) The National Environmental Policy Act (42 U.S.C. §§ 4321 *et seq.*), as amended;

(ii) The Georgia Environmental Policy Act (Section 12-16-1, et seq. of the Official Code of Georgia Annotated), as amended;

(iii) State species laws, including Georgia Endangered Wildlife Act and/or, Georgia Wildflower Preservation Act;

(iv) The Comprehensive Environmental Response, Compensation, and Liability Act (42 U.S.C. §§ 9601 *et seq.*), as amended;

(v) The Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act (42 U.S.C. §§ 6901 *et seq.*);

(vi) The Emergency Planning and Community Right to Know Act of 1986 (42 U.S.C. §§ 11001 *et seq.*), as amended;

(vii) The Clean Air Act (42 U.S.C. §§ 7401 *et seq.*), as amended;

(viii) The Federal Water Pollution Control Act, as amended by the Clean Water Act (33 U.S.C. §§ 1251 *et seq.*);

(ix) The Resource Conservation and Recovery Act (42 U.S.C. §§ 6901, *et seq.*), as amended;

(x) The Toxic Substances Control Act (15 U.S.C. §§ 2601 *et seq.*), as amended;

(xi) The Hazardous Materials Transportation Act (49 U.S.C. §§ 1801 *et seq.*), as amended;

(xii) The Oil Pollution Act (33 U.S.C. §§ 2701, *et. seq.*), as amended;

(xiii) The Federal Insecticide, Fungicide and Rodenticide Act (7 U.S.C. §§ 136 *et seq.*), as amended;

(xiv) The Federal Safe Drinking Water Act (42 U.S.C. §§ 300 *et seq.*), as amended;

(xv) The Federal Radon and Indoor Air Quality Research Act (42 U.S.C. §§ 7401 *et seq.*), as amended;

(xvi) The Occupational Safety and Health Act (29 U.S.C. §§ 651 *et seq.*);

(xvii) The Endangered Species Act (16 U.S.C. §§ 1531 *et seq.*), as amended;

(xviii) The Fish and Wildlife Coordination Act (16 U.S.C. §§ 661 *et seq.*), as amended;

(xix) The National Historic Preservation Act (16 U.S.C. §§ 470 *et seq.*), as amended;

(xx) The Coastal Zone Management Act (33 U.S.C. §§ 1451 *et seq.*), as amended;

(xxi) Georgia Water Quality Act (O.C.G.A. § 12-5-20);

(xxii) Georgia Erosion and Sedimentation Act (O.C.G.A. § 12-7-1), as amended;

(xxiii) Best Management Practices (O.C.G.A. § 12-7-6(b)(15)); and

(xxiv) Georgia Underground Storage Act (O.C.G.A. § 12-13-1)).

Escrow Agent has the meaning set forth in Exhibit 24 of the Agreement.

Exhibits means all exhibits, riders, and other attachments to the DB Documents, including without limitation Volume 1, Volume 2, and Volume 3, as well as, any of the aforementioned, which are incorporated into any DB Documents by reference, and all amendments, modifications, and supplements thereto.

Existing Improvements means the existing highway, bridge, and related improvements as of the date that is ninety (90) days prior to the Proposal Due Date within the Construction Maintenance Limits.

Existing Right of Way or **Existing ROW** means any real property (which term is inclusive of all estates and interests in real property), improvements and fixtures (i) as provided in Article 2.2.1.1(a) of the Agreement and more specifically described and identified as "Existing ROW" within Exhibit 4, in which GDOT has a property right or interest, and (ii) any Proposed Right of Way, which GDOT at any time after the Effective Date, shall acquire a leasehold estate or other property interest. The term specifically includes all air space, surface rights and subsurface rights within the limits of the Existing Right of Way.

Existing Utility Property Interest means any right, title or interest in real property (e.g., a fee or an easement) claimed by a Utility Owner as the source of its right to maintain an existing Utility in such real property, which is compensable in eminent domain.

Evaluation Score means the numerical score resulting from the adjectival evaluation and numerical conversion of a particular portion of the Proposals.

Federal Requirements means the provisions required to be part of federal-aid construction contracts, including the provisions set forth in Exhibit 8 to the Agreement.

Final Acceptance means the occurrence of all the events and satisfaction of all the conditions set forth in GDOT Standard Specification 105.16.

Final Acceptance Date means the date upon which Design-Build Team has satisfied all conditions of and for Final Acceptance and GDOT has certified same.

Final Design shall have the meaning set forth in Article 3.3.1.2 of the DB Agreement.

Final Plans means the Design Documents which provide the complete and final documents necessary for the construction, operations, and maintenance of the Project or any portion thereof including any Utility Adjustments required by the Project.

Final ROW Lines means the final location of all Right of Way within the project limits.

Fiscal Year means the twelve (12) month fiscal year used by GDOT for budgeting purposes.

Float means the amount of time that any given activity or logically connected sequence of activities shown on the Preliminary Baseline Schedule and Project Baseline Schedule, as the case may be, may be delayed before it will affect completion of any Work as required to achieve any Milestone Schedule Deadline, including the Substantial Completion Deadline and Final Acceptance Deadline.

Force Majeure Event means the occurrence of any of the following events that materially and adversely affects performance of Design-Build Team's obligations, provided that such events (or the effects of such events) could not have been avoided by the exercise of caution, due diligence, or reasonable efforts by Design-Build Team: (a) war (including civil war and revolution), invasion, armed conflict, violent act of foreign enemy, military or armed blockade, or military or armed takeover of the Project, in each case occurring within the State; (b) any act of terrorism or sabotage that causes direct physical damage to the Project; (c) nuclear explosion or contamination, in each case occurring within the State; (d) riot and civil commotion on or in the immediate vicinity of the Project; (e) fire, explosion, flood, earthquake, hurricane, or tornado, in each case that causes direct physical damage to the Project; or (f) national or statewide (i.e. State of Georgia) strike that has a direct adverse impact on Design-Build Team's ability to obtain materials, equipment or labor for the Project.

Formal Consultation means during Section 7 Consultation (Endangered Species Act) that a Federal agency determines, through a biological assessment or other review, that its action is likely to adversely affect a listed species.

GDOT means the Georgia Department of Transportation, as set forth in the recitals of the Agreement, and any entity succeeding to the powers, authorities and responsibilities of GDOT invoked by or under the DB Documents.

GDOT-Caused Delay means any of the following events, to the extent they result in a material delay or interruption in performance of any material obligation under the Agreement, and provided such events are beyond Design-Build Team's control and are not due to any act, omission, negligence, recklessness, willful misconduct, breach of contract or Law of any of the Design-Build Team-Related Entities, solely to the extent not concurrent or overlapping with any delay attributable to Design-Build Team, and further provided that such events (or the effects of such events) could not have been avoided by the exercise of caution, due diligence, or reasonable efforts by Design-Build Team, and with respect to any Compensation Event, solely to the extent that the cumulative effect of any such delays as set forth below have or shall result in delays, after taking into account any available Float, in excess of ninety (90) days:

(a) Failure of GDOT to issue NTP 1 as provided pursuant to Article 3.3.1.1 of the Agreement and/or failure to issue NTP 2 or NTP 3 as provided pursuant to Article 3.3.1.2 and Article 3.3.1.3 of the Agreement;

(b) GDOT Changes;

(c) Failure of GDOT to provide the GDOT-Provided Approvals within the time periods set forth in Section 4.2.2 of the Technical Provisions, subject to Article 6.2.1 of the Agreement; or

(d) Failure of GDOT to provide responses to proposed schedules, plans, Design Documents, condemnation and acquisition packages, and other Submittals and matters submitted to GDOT after the Effective Date for which response is required under the DB

Documents as an express prerequisite to Design-Build Team's right to proceed or act, within the time periods (if any) indicated in the DB Documents, or if no time period is indicated, within a reasonable time, taking into consideration the nature, importance and complexity of the submittal or matter, following delivery of written notice from Design-Build Team requesting such action in accordance with the terms and requirements of the DB Documents;

(e) Failure of GDOT to provide Design-Build Team with access to the Right of Way as required; or

(f) The occurrence of a GDOT Release of Hazardous Materials.

Any proper suspension of Work pursuant to Article 17.3.7 of the Agreement shall not be considered a GDOT -Caused Delay.

GDOT Change means:

(a) Any change in the scope of the Work or terms and conditions of the Technical Provisions or Technical Documents (including changes in the standards applicable to the Work) that GDOT has directed Design-Build Team to perform through a Supplemental Agreement as described in Article 14.1 of the Agreement or a Directive Letter pursuant to Article 14.3 of the Agreement; and

(b) Any other event that the DB Documents expressly state shall be treated as a GDOT Change.

GDOT Claims Account means the designated account for the benefit of GDOT and Design-Build Team to be administered and maintained by GDOT for payments on account of Claims as required by GDOT pursuant to Article 17.3.4.3 of the Agreement.

GDOT Default has the meaning set forth in Article 17.5.1 of the Agreement.

GDOT Re-evaluation Period means the specified amount of time set forth as a condition in an approved ATC for GDOT to obtain the applicable Governmental Approval required for a re-evaluation of the NEPA/GEPA Approval, prior to Design-Build Team being entitled to a Relief Event or Compensation Event; provided, however, that such time shall commence upon the date that GDOT has received a full and complete document package from Design-Build Team required for GDOT to process such re-evaluation.

GDOT Recoverable Costs means:

(a) The costs of any assistance, action, activity or Work undertaken by GDOT which Design-Build Team is liable for or is to reimburse under the terms of the DB Documents, including the charges of third party contractors, and reasonably allocated wages, salaries, compensation and overhead of GDOT staff and employees, performing such action, activity or Work (exclusive or ordinary and customary administration and review activities by GDOT employees or consultants (except for such consultant fees and expenses as expressly reserved in the Agreement); plus

(b) Third-party costs GDOT incurs to publicly procure any such third party contractors; plus

(c) Reasonable fees and costs of attorneys (including the reasonably allocable fees and costs of the Georgia Attorney General's Office), financial advisors, engineers, architects, insurance brokers and advisors, investigators, traffic and revenue consultants, risk management consultants, other consultants, and expert witnesses, as well as court costs and other litigation costs, in connection with any such assistance, action, activity or Work, including in connection with defending claims by and resolving disputes with third party contractors; plus

(d) Any expense or cost for which GDOT is to be reimbursed by Design-Build Team pursuant to the express terms of the Agreement; including without limitation Articles 2.2.3.2, 6.2.5, 7.5.7.2, 16.1.2.4, 16.6.7, 17.3.3.2, 17.3.8.3, 17.3.11.2, and 22.3.3; plus

(e) Interest on all the foregoing sums at the Default Interest Rate from the date due under the applicable terms of the DBA Documents and continuing until paid.

GDOT Release(s) of Hazardous Materials means, except as provided below, the introduction in, on or under the Construction Maintenance Limits or Operation and Maintenance Limits of Hazardous Material directly by GDOT, and their respective agents and contractors (excluding Design-Build Team). GDOT Release(s) of Hazardous Material excludes, however, (i) any Hazardous Materials so introduced that are in or part of construction materials and equipment incorporated into the Project and (ii) any Hazardous Materials identified in the phase 1 investigation and report described in clause (i) of the definition of Pre-Existing Hazardous Materials.

GDOT Standard Specifications means the Georgia Department of Transportation Standard Specifications, Construction of Transportation Systems.

General Purpose Lanes means Limited Access Highway lanes within the Existing Right of Way other than the Managed Lanes.

Geotechnical Engineering Reports means the reports which meet the requirements described in Section 8.2 of the Technical Provisions.

GEPA means the Georgia Environmental Policy Act, as amended and as it may be amended from time to time.

GEPA Approval means the (a) GEPA document as approved by Georgia DOT including any studies, reports, Environmental Commitments, and all other procedural requirements and documents required for the Project or a portion of the Project, as (b) may be modified pursuant to all Georgia EPD, USACE, USFWS approvals, and approved supplements and re-evaluations pertaining to the Project.

Good Industry Practice means the exercise of the degree of skill, diligence, prudence and foresight which would reasonably and ordinarily be expected from time to time from a skilled and experienced designer, engineer, or constructor, seeking in good faith to comply with its contractual obligations, complying with the DB Documents, all applicable Laws and Governmental Approvals, and engaged in the same type of undertaking in the United States under similar circumstances and conditions.

Governmental Approval means any permit, license, consent, concession, grant, franchise, authorization, waiver, variance or other approval, guidance, protocol, mitigation agreement, special provision, or memoranda of agreement/understanding, and any amendment

or modification of any of them provided by Governmental Entities including State, local, or federal regulatory agencies, agents, or employees, which authorize or pertain to the Project or the Work.

Governmental Entity means any federal, State or local government and any political subdivision or any governmental, quasi-governmental, judicial, public or statutory instrumentality, administrative agency, authority, body or entity other than GDOT.

Guarantor means any Person that is the obligor under any guaranty in favor of GDOT required under the Agreement, including any Design-Build Guaranty.

Hazardous Materials means any element, chemical, compound, material or substance, whether solid, liquid or gaseous, which at any time is defined, listed, classified or otherwise regulated in any way under any Environmental Laws, or any other such substances or conditions (including mold and other mycotoxins or fungi) which may create any unsafe or hazardous condition or pose any threat to human health and safety. "Hazardous Materials" includes the following:

(a) Hazardous wastes, hazardous material, hazardous substances, hazardous constituents, and toxic substances or related materials, whether solid, liquid, or gas, including substances defined as or included in the definition of "hazardous substance", "hazardous waste", "hazardous material", "extremely hazardous waste", "acutely hazardous waste", "radioactive waste", "radioactive materials", "bio-hazardous waste", "pollutant", "toxic pollutant", "contaminant", "restricted hazardous waste", "infectious waste", "toxic substance", "toxic waste", "toxic material", or any other term or expression intended to define, list or classify substances by reason of properties harmful to health, safety or the indoor or outdoor environment (including harmful properties such as ignitability, corrosivity, reactivity, carcinogenicity, toxicity, reproductive toxicity, "TCLP" toxicity" or "EP toxicity" or words of similar import under any applicable Environmental Laws);

(b) Any petroleum, including crude oil and any fraction thereof, and including any refined petroleum product or any additive thereto or fraction thereof or other petroleum derived substance; and any waste oil or waste petroleum byproduct or fraction thereof or additive thereto;

(c) Any drilling fluids, produced waters and other wastes associated with the exploration, development or production of crude oil, natural gas or geothermal resources;

(d) Any flammable substances or explosives;

(e) Any radioactive materials;

(f) Any asbestos or asbestos-containing materials;

(g) Any lead and lead-based paint;

(h) Any radon or radon gas;

(i) Any methane gas or similar gaseous materials;

(j) Any urea formaldehyde foam insulation;

(k) Electrical equipment which contains any oil or dielectric fluid containing regulated levels of polychlorinated biphenyls;

(l) Pesticides;

(m) Any other chemical, material or substance, exposure to which is prohibited, limited or regulated by any Governmental Entity or which may or could pose a hazard to the health and safety of the owners, operators, Users or any Persons in the vicinity of the Project or to the indoor or outdoor Environment; and

(n) Soil, or surface water or ground water, contaminated with Hazardous Materials as defined above.

Hazardous Materials Management means procedures, practices and activities to address and comply with Environmental Laws and Environmental Approvals with respect to Hazardous Materials encountered, impacted, caused by or occurring in connection with the Project or the Work, as well as investigation and remediation of such Hazardous Materials. Hazardous Materials Management may include sampling, stock-piling, storage, backfilling in place, asphalt batching, recycling, treatment, clean-up, remediation, transportation and/or off-site disposal of Hazardous Materials, whichever approach is effective, most cost-efficient and authorized under applicable Law.

Highway means a travel way for vehicular traffic that is included in the State or federal highway system.

Highway Service Systems means GDOT's or a Governmental Entity's lighting and electrical systems, traffic control systems, communications systems and irrigation systems serving street or highway purposes (including ITS and Intelligent Vehicle Highway System facilities).

Historic Property means any prehistoric or historic district, site, building, structure or object included in, or eligible for inclusion in, either the National Register of Historic Places or the Georgia Register of Historic Places.

HOV means a passenger vehicle carrying a specified minimum number of passengers. HOVs include carpools, vanpools and buses.

Immigration Act means the Georgia Immigration & Compliance Act, O.C.G.A. § 13-10-90, *et seq.* as set forth in Article 10.6.4 of the Agreement.

Incident means any unplanned event during the course of construction.

Incident Management Plan means Design-Build Team's plan for detection and response to Incidents or Emergencies, as part of the PMP.

Indemnified Parties means GDOT, the State, the State Transportation Board, and their respective successors, assigns, officeholders, officers, directors, commissioners, agents, representatives, consultants and employees. Indemnified Party shall mean any of the aforementioned.

Informal Consultation means during Section 7 Consultation (Endangered Species Act) that a Federal agency determines that its action may affect a listed species.

ITP or **Instructions to Proposers** means the document that provides instructions to be followed by Proposers in their responses to the RFP.

Insurance Policies means all of the insurance policies Design-Build Team is required to carry pursuant to Article 16.1 and Exhibit 17 of the Agreement.

Intellectual Property means all current and future legal and/or equitable rights and interests in know-how, patents (including applications), copyrights (including moral rights), trademarks (registered and unregistered), service marks, trade secrets, designs (registered and unregistered), utility models, circuit layouts, plant varieties, business and domain names, inventions, solutions embodied in technology, and other intellectual activity, and applications of or for any of the foregoing, subsisting in or relating to the Project, Project design data or Project traffic data. Intellectual Property includes toll-setting and traffic management algorithms, and software used in connection with the Project (including but not limited to software used for management of traffic on the Project), and Source Code. Intellectual Property also includes the trade secret information contained in proprietary pricing information. Intellectual Property is distinguished from physical construction and equipment itself and from drawings, plans, specifications, layouts, depictions, manuals and other documentation that disclose Intellectual Property.

Intelligent Transportation System (ITS) has the meaning set forth in Section 17 of the Technical Provisions.

Intelligent Vehicle Highway System (IVHS) means smart vehicle and smart highway technologies to improve the safety, efficiency and environmental impact of highway facilities.

Interim Design means any submittal of Design Documents after the Preliminary Plans have been accepted but prior to submittal of Final Plans for the entire Project or any approved Project segment. Interim Designs are intended to resolve conflicts and unresolved comments from the Preliminary Plans submittal.

Key Contract means any one of the following Contracts for Work that Design-Build Team or Design-Build Team's Contractor's causes to be performed:

(a) All prime construction Contracts;

(b) All project or program management services, architectural design, or engineering Contracts; and

(c) All other Contracts with a single Contractor or Subcontractor which individually or in the aggregate total in excess of $25 million.

Key Contractor means any Contractor or Subcontractor, as the case may be, under any Key Contract.

Key Personnel means those individuals appointed by Design-Build Team and approved by GDOT from time to time to fill the "Key Personnel" positions. The specific individuals

appointed by Design-Build Team and approved by GDOT to initially fill certain of the Key Personnel positions are identified in Exhibit 2 to the Agreement.

Landscape Enhancement Plan has the meaning set forth in Section 15.2.2 of the Technical Provisions.

Latent Defects Deductible has the meaning set forth in Article 7.12.2.1 of the Agreement.

Law or **Laws** means (a) any statute, law, code, regulation, ordinance, rule or common law, (b) any binding judgment (other than regarding a Claim or Dispute), (c) any binding judicial or administrative order or decree (other than regarding a Claim or Dispute), (d) any written directive, guideline, policy requirement or other governmental restriction (including those resulting from the initiative or referendum process, but excluding those by GDOT within the scope of its administration of the DBA Documents or in the normal course of its adoption of new or revised technical standards pursuant to Article 7.2.5 of the Agreement) or (e) any similar form of decision of or determination by, or any written interpretation or administration of any of the foregoing by, any Governmental Entity, in each case which is applicable to or has an impact on the Project or the Work, whether taking effect before or after the Effective Date, including Environmental Laws. "Laws", however, excludes Governmental Approvals.

Lead Contractor shall mean the entity designated as a Proposer's "Lead Contractor" in its SOQ. There may only be one Lead Contractor per Proposer team.

Lead Engineering Firm shall mean the entity designated as a Proposer's "Lead Engineering Firm" in its SOQ. There may only be one Lead Engineering Firm per Proposer team.

Line or **line** means, in the context of Utilities or Highway Service Systems, a line, pipeline, conduit or cable used for utility purposes, including underground, surface or overhead facilities.

Liquidated Damages means such liquidated damages as may accrue and be due and payable by Design-Build Team to GDOT as set forth under Article 17.4 of the Agreement and as set forth under Exhibit 18 thereto.

Loss or **Losses** means any loss, damage, injury, liability, obligation, cost, response cost, expense (including attorneys', accountants' and expert witnesses' fees and expenses (including those incurred in connection with the enforcement of any indemnity or other provision of the Agreement)), fee, charge, judgment, penalty or fine. Losses include injury to or death of persons, damage or loss of property, and harm or damage to natural resources.

Major Culvert means a culvert that provides an opening of more than 35 square feet in a single or multiple installations. A major culvert may consist of a single round pipe, pipe arch, open or closed-bottom box, bottomless arch, or multiple installations of these structures placed adjacent or contiguous as a unit. Certain major culverts are classified as bridges when they provide an opening of more than 20 feet, measured parallel to the roadway; such culverts may be included in the bridge inventory.

Major Non-Participating Member means a Proposer's Lead Contractor and Lead Engineering Firm. If any of these entities qualify as a Participating Member, then that entity

shall not be treated as a Major Non-Participating Member. Major Non-Participating Members are not considered Contractors to Proposer regardless of their role in the performance of Project-related services.

Major River Crossing means a crossing with a 100-year storm event flow in excess of 10,000 cubic feet per second (cfs).

Managed Lanes means Limited Access Highway lanes located within the Property that increase traffic efficiency by using various design and operational strategies (including congestion priced tolls), including the Electronic Toll Collection System for such lanes.

Management Plans means all of the management plans identified in Section 2 of the Technical Provisions.

Memorandum of Understanding (MOU) means a formal agreement between GDOT and one or more agencies, organizations or providers.

Milestone Deadline shall have the same meaning as any Milestone Schedule Deadline.

Milestone Schedule means the schedule of deadlines set forth in Exhibit 9 to the Agreement, as may be adjusted upon approval of the Project Baseline Schedule as set forth in Article 3.3 of the Agreement and as may be further adjusted pursuant to any Supplemental Agreement, including on account of any Relief Events.

Milestone Schedule Deadline means the critical milestones for commencement and/or completion of the Work as set forth in Exhibit 9 to the Agreement, including without limitation the Substantial Completion Deadline, Final Acceptance Deadline, as may be adjusted upon approval of the Project Baseline Schedule as set forth in Article 3.3 of the Agreement, and as further adjusted pursuant to any Supplemental Agreement, including on account of any Relief Events.

Minor Culvert means any culvert not classified as a Major Culvert.

Mobilization means Work to establish and remove offices, plants, and facilities; and to move personnel, equipment, and supplies to and from the Project site to begin Work or complete Work.

NaviGAtor Contractor means that certain Separate Contractor engaged by GDOT to provide the NaviGAtor System to be included and integrated into the ITS to be incorporated into the Project.

NaviGAtor Integration Deadline means that certain Milestone Schedule Deadline, as set forth in the Milestone Schedule, as may be adjusted by the Project Baseline Schedule, for completion of such portions of the Work as necessary and required to allow the NaviGAtor Contractor to commence the NaviGAtor Work.

NaviGAtor System means the "NaviGAtor" advanced transportation management system to be included as a part of the ITS as set forth pursuant to Section 17.1.3 of the Technical Provisions.

NaviGAtor Work means the work to be provided by the NaviGAtor Contractor, coordinated with the Work, for completion of the NaviGAtor System for the Project.

NEPA means the National Environmental Policy Act, 42 U.S.C. § 4321 *et seq*., as amended and as it may be amended from time to time.

NEPA Approval means the (a) NEPA document as approved by FHWA including any studies, reports, Environmental Commitments, and all other procedural requirements and documents required for FHWA approval for the Project or a portion of the Project, as (b) may be modified pursuant to all approved supplements and re-evaluations pertaining to the Project.

NEPA Finality Date means the date NEPA Approval becomes final and non-appealable and the federal statute of limitations for commencing legal action to challenge the validity of any NEPA Approval has expired.

Nonconforming Work means Work that does not conform to the requirements of the DB Documents, the Governmental Approvals, applicable Law or the Design Documents.

Notice of Termination for Convenience means written notice issued by GDOT to Design-Build Team terminating the Agreement in whole or in part for convenience.

NTP means a written notice issued by GDOT to Design-Build Team authorizing Design-Build Team to proceed with the portion or phase of the Work as being designated as subject to such notice to proceed in the Preliminary Baseline Schedule, the Project Baseline Schedule, or otherwise in the DBA Documents, including without limitation NTP 1, NTP 2, and NTP 3.

NTP 1 means a written notice issued by GDOT to Design-Build Team authorizing Design-Build Team to proceed with the portion of the Work described in Article 3.3.1.1 of the Agreement.

NTP 2 means a written notice issued by GDOT to Design-Build Team authorizing Design-Build Team to proceed with the portion of the Work described in Article 3.3.1.2 of the Agreement.

NTP 3 means a written notice issued by GDOT to Design-Build Team pursuant to Article 3.3.1.3 of the Agreement authorizing Design-Build Team to proceed with the remaining Work and other activities pertaining to the Project.

NTP 1 Conditions Deadline means the outside date set forth in the Milestone Schedule (or the Project Baseline Schedule as to the extent such outside date is adjusted thereby) by which Design-Build Team is obligated under the Agreement to satisfy all conditions to issuance of NTP 1, as such deadline may be extended for Relief Events from time to time pursuant to the Agreement.

NTP 2 Conditions Deadline means the outside date set forth in the Milestone Schedule (or the Project Baseline Schedule as to the extent such outside date is adjusted thereby) by which Design-Build Team is obligated under the Agreement to satisfy all conditions to issuance of NTP 2, as such deadline may be extended for Relief Events from time to time pursuant to the Agreement.

NTP 3 Conditions Deadline means the outside date set forth in the Milestone Schedule (or the Project Baseline Schedule as to the extent such outside date is adjusted thereby) by which Design-Build Team is obligated under the Agreement to satisfy all conditions to issuance of NTP 3, as such deadline may be extended for Relief Events from time to time pursuant to the Agreement.

Open Book Basis means allowing the relevant Party to review all underlying assumptions and data associated with the issue in question, including, but not limited to, assumptions as to costs of the Work, schedule, composition of equipment spreads, equipment rates, labor rates, productivity, estimating factors, design and productivity allowance, contingency and indirect costs, risk pricing, discount rates, interest rates, inflation and deflation rates, and other items reasonably required by the relevant Party.

Open Government Laws mean, collectively, the Georgia Open Records Act, Ga. Code Ann. §§ 50-18-70 *et seq.*, Section 32-2-80(a)(40) of the Code and Section 672-17.06 of the Rules, as amended from time to time.

Open Road Toll (ORT) means toll collection conducted (a) exclusively via vehicle identification with transponders and/or video capture of the license plate and (b) in an open multilane free-flow highway environment with no constraints on speed, vehicle type or vehicle location.

Optical Character Recognition (OCR) means the process of converting an image to text.

Owner Verification Tests (OVT) means the material tests performed in accordance with the applicable GDOT test method to verify the accuracy of the tests performed by Design-Build Team and pursuant to the approved Quality Management Plan to ensure that only materials of specified quality or better are accepted and incorporated into the Project.

P&P Bonds means the bonds meeting the requirements of Article 16.2.1 of the Agreement.

P&P Obligor means the Person identified as the obligor or account party in the P&P Bonds, as applicable.

Participating Agency means a public, quasi-public, or private agency that has agreed to cooperate with and assist Design-Build Team during an Emergency.

Participating Member means (a) if the Proposer is a joint venture, partnership, or limited liability company, each member of the joint venture, partnership or limited liability company; or (b) if the Proposer is a corporation or other corporate entity, the Proposer.

Party means Design-Build Team or GDOT, as the context may require, and "**Parties**" means Design-Build Team and GDOT, collectively.

Payment Activity means completion of an Element of the Work for which payment on account of the DB Contract Sum shall be due, subject to the terms of this Agreement and as follows:

(a) The first Payment Request (after NTP 1) may include the Payment and Performance Bond amounts;

(b) The first Payment Request (after NTP 3) may include up to 50% of the amount for Mobilization set forth in the Proposal, or 3% of the of the construction cost set forth in the Schedule of Values, whichever is less;

(c) When 5% of the construction cost set forth in the approved Schedule of Values is incurred, the next Payment Request may include up to 100% of the amount of Mobilization set forth in the Proposal, or 3% of the construction cost set forth in the approved Schedule of Values, whichever is less, minus any previous payments;

(d) Design-Build Team's indirect costs such as administration, contingencies, site cleanup and maintenance, access, off site access roads and security costs related to design-build costs shall be prorated through all Payment Activities.

Payment for Work Product means the partial compensation to be paid to Design-Build Team as described in Form N to the ITP.

Payment Request means the request for payment on account of the Work all in accordance with the terms and conditions set forth in GDOT Standard Specification 109.03.

Permitted Design Exceptions means design exceptions identified in Section 11.2 Technical Provisions that are allowed to be implemented on the Project.

Person means any individual, corporation, joint venture, limited liability company, company, voluntary association, partnership, trust, unincorporated organization, Governmental Entity, or GDOT.

Phase 1 Hazardous Materials Investigation means an environmental assessment conducted in accordance with the DB Documents and ASTM E-1527-05, or any future revision or replacement thereof, to identify Recognized Environmental Conditions and potential Recognized Environmental Conditions.

Plans means (only where capitalized) contract drawings, working drawings, supplemental drawings, detail sheets or exact reproductions thereof, which show the location, character, dimensions and details of the Construction Work to be done.

Pre-existing Hazardous Materials means Hazardous Materials that meet all the following criteria:

(a) The Hazardous Materials are in, on or under the Right of Way as of the date SRTA or GDOT makes available to Design-Build Team the affected parcel; or

(b) The Hazardous Materials are not located in, on or under any Project Specific Locations or Additional Properties, except Additional Properties required due to GDOT Changes (including GDOT Changes regarding the initial construction).

For purposes of determining whether Hazardous Materials were in, on or under the Right of Way or any Additional Properties required by GDOT to be included in the Property as a result of GDOT Changes, as of the date on which GDOT makes available to Design-Build Team the

affected parcel, Design-Build Team shall have the burden of proof to demonstrate it was not a Design-Build Team Release of Hazardous Materials:

(i) As to any Hazardous Materials not identified as being present as of such date in the following: The phase 1 investigations of the Project conducted by GDOT prior to the Effective Date or any Phase 1 Hazardous Materials Investigation or Phase 2 Hazardous Materials Investigation supplementing the foregoing report prepared as and when set forth in Article 7.8.2 of the Agreement; and

(ii) As to any Additional Properties required by GDOT to be included in the Property as a result of GDOT Changes, any Phase 1 Hazardous Materials Investigation thereof prepared and delivered as and when set forth in Article 7.8.2 of the Agreement.

For the purpose of this definition, "makes available" means:

(x) The Effective Date, except for parcels not yet acquired as of the Effective Date; and

(y) As to parcels not yet acquired as of the Effective Date and as to Additional Properties required by GDOT to be included in the Property as a result of GDOT Changes, the date Design-Build Team first receives the right to take and maintain possession of the parcel for all purposes for the remainder of the Term in accordance with the DB Documents, including commencement of construction, as the result of GDOT's having secured title or right of possession by contract or title instrument or by a special commissioners' award through the

Preliminary Baseline Schedule means the high level, logic based, critical path schedule representing Design-Build Team's plan to complete performance of the Work beginning on the date of NTP 1 to Final Acceptance of the Work, submitted with the Proposal, as set forth on Exhibit 10 to the Agreement. The Preliminary Baseline Schedule shall not mean the Project Status Schedule Updates as set forth in Section 2.2.2 of the Technical Provisions, nor shall such Project Status Schedule Updates constitute revisions or amendments to the Preliminary Baseline Schedule.

Preliminary Plans means the Design Documents which provide the preliminary design necessary for the related to construction, operations, and maintenance of the entire Project including any Utility Adjustments required by the Project.

Presidential Disaster Declaration means a declaration of a major disaster by the President of the United States triggering assistance from FEMA pursuant to the Disaster Relief Act of 1974 (Pub.L. No. 93-288, as amended).

Price Proposal means the price component of the Proposal evaluation as described ITP.

Price Proposal Score means the score calculated in accordance projects evaluation criteria.

Principal Project Documents means the Security Instruments and the Design-Build Contract.

Project means the Project as defined in the RFP, that is the subject of this Agreement, and which shall include the transportation facilities and all related structures, and improvements, including integration of the ITS, and communications systems used in connection with operation of such transportation facilities, to be designed and constructed pursuant to the terms of the DB Documents.

Project Baseline Schedule means the logic-based critical path schedule for all Work from commencement of the Work leading up to and including, without limitation, each Milestone Schedule Deadline, Substantial Completion and Final Acceptance, to be prepared by Design-Build Team consistent with and taking into account the Milestone Schedule, as and to the extent such schedule has been approved by GDOT, all as more particularly described in Section 2.3 of the Technical Provisions, and all revisions to such schedule as provided in the DB Documents. The Project Baseline Schedule shall not mean the Project Status Schedule Updates as set forth in Section 2.3.4 of the Technical Provisions, nor shall such Project Status Schedule Updates constitute revisions or amendments to the Project Baseline Schedule.

Project Extension means a linear addition to the original Project by Design-Build Team, including any at either terminus of the original Project and any linear improvement that interconnects with the original Project.

Project Information Coordinator means the person designated by Design-Build Team to manage Design-Build Team's public information activities as more particularly described in Section 3.2.2 of the Technical Provisions.

Project Manager means the individual designated by Design-Build Team and approved in writing by GDOT in the position to take full responsibility for the prosecution of the Work and will act as a single point of contact on all matters on behalf of Design-Build Team.

Project Phase shall have the meaning set forth in Section 2.1.9 of the Technical Provisions.

Project Schedule shall mean the Preliminary Baseline Schedule or Project Baseline Schedule, as applicable, as controlled by the Milestone Schedule, pursuant to Article 3.3.4 of the Agreement, as may be further adjusted pursuant to any Supplemental Agreement, including on account of any Relief Events.

Project Specific Locations means any additional temporary property interests or rights, other than ROW or Additional Properties, which are not contiguous to the Property, that Design-Build Team may require for performance of the Work, including for temporary activities in connection with the Construction Work, such as construction work sites, temporary work areas, staging areas, storage areas, and earthwork material borrow sites.

Project Status Schedule Update means the logic-based critical path schedule submitted monthly containing progress status and enabling comparison to the Project Baseline Schedule.

Property has the meaning set forth in Article 2.2.1 of the Agreement and shall include only such property as identified in the Environmental Document Approval.

Proposal has the meaning set forth in Recital F of the Agreement.

Proposal Bond means the security that Proposers submit to GDOT with their Proposals

Proposal Revisions has the meaning set forth in Section 5.4 of the ITP.

Proposal Due Date means the deadline for submission of the Proposal to GDOT as defined in the ITP Section 1.4.

Proposed Right of Way or **Proposed ROW** means any real property (which term is inclusive of all estates and interests in real property), improvements and fixtures within the lines established in and designated as "Proposed ROW" within Exhibit 4 to the Agreement for which GDOT is obligated to provide access to Design-Build Team and/or acquire a leasehold estate or other similar property interest or rights pursuant to Article 2.2.1.1(b) of the Agreement. The term specifically includes all air space, surface rights and subsurface rights within the limits of the Proposed Right of Way and specifically excludes any Additional Properties. All portions of the Proposed Right of Way, as and to the extent of any property interests in same acquired by GDOT, shall thereafter and without further amendment to Exhibit 4 be deemed Existing Right of Way.

Proposer" or "**Proposers**" has the meaning set forth in Section 1.1 in the ITP.

Proprietary Intellectual Property means Intellectual Property created, used, applied or reduced to practice in connection with the Project or the Work that derives commercial value from its protection as a trade secret under applicable Law or from its protection under patent law.

Protection in Place means any action taken to avoid damaging a Utility which does not involve removing or relocating that Utility, including staking the location of a Utility, exposing the Utility, avoidance of a Utility's location by construction equipment, installing steel plating or concrete slabs, encasement in concrete, temporarily de-energizing power lines, and installing physical barriers. The term includes both temporary measures and permanent installations meeting the foregoing definition.

Provided Approvals means the Governmental Approvals for the Project obtained or to be obtained by GDOT, as specifically listed in Section 4.2 of the Technical Provisions (including any such approvals as may be required from GDOT independent of GDOT's Project administration pursuant to Article 6.2 of the Agreement).

Public Information and Communications Plan (PICP) has the meaning set forth in Section 3.2 of the Technical Provisions.

Punch List means an itemized list of Construction Work that remains to be completed following Substantial Completion but as a condition to Final Acceptance, provided that the nature of any such incomplete Work, and the correction and completion of same, will have no material or adverse effect on the normal and safe use and operation of the Project.

Punch List Period means the time provided for Design-Build Team's completion of Punch List Work, which shall be the time between Substantial Completion and Final Acceptance as provided in the Project Baseline Schedule.

QA/QC Proposal Revisions has the meaning set forth in Section 5.4 of the ITP.

QA/QC means quality assurance and quality control.

Quality Management Plan (QMP) means the set of GDOT-approved plans for quality management and control of the Project and Work, as set forth in Section 2.3 of the Technical Provisions.

Quality Manager means the individual retained by Design-Build Team as the Key Personnel with the authority and responsibility for ensuring establishment and maintenance of, and compliance with, the Quality Management Plan.

Quitclaim Deed means a quitclaim deed to be executed by a Utility Owner relinquishing its rights to maintain a Utility in a particular location, as more particularly described in Section 6.2.4.4 of the Technical Provisions.

Railroad Right of Entry Agreement has the meaning described in Section 14.3.1.3 of the Technical Provisions.

Recognized Environmental Condition has the meaning set forth in ASTM E-1527-00.

Record Drawings means construction drawings and related documentation revised to show as-built changes to the Project at Final Acceptance. Interim marked-in-the-field or red-lined drawings to be provided during the progress of the Work as required pursuant to the Technical Provisions shall not constitute the final Record Drawings.

Reference Information Documents (RIDs) means the collection of information, data, documents and other materials that GDOT has provided to Design-Build Team for general or reference information only.

Registered Professional Engineer means a person who is duly licensed and registered by the Georgia State Board of Registration for Professional Engineers and Land Surveyors to engage in the practice of engineering in the State of Georgia.

Registered Professional Land Surveyor means a person registered by the Georgia State Board of Registration for Professional Engineers and Land Surveyors to practice the profession of land, boundary, or property surveying or other similar professional practices.

Related Transportation Facility(ies) means all existing and future highways, streets and roads, including upgrades and expansions thereof, that is/are or will be adjacent to, connecting with or crossing under or over the Project, as specifically identified in the Technical Provisions.

Release of Hazardous Materials means any spill, leak, emission, release, discharge, injection, escape, leaching, dumping or disposal of Hazardous Materials into the soil, air, water, groundwater or environment, including any exacerbation of an existing release or condition of Hazardous Materials contamination.

Release for Construction or **RFC** means the written authorization by GDOT to proceed with any designated phase of the Construction Work based on the approved Final Plans.

Relief Event means any of the following events, subject to any limitations, claims submission requirements and other conditions set forth in the Agreement, provided that no relief

will be available to the extent that (i) the events are within Design-Build Team's control, or are due to any wrongful act, wrongful omission, negligence, recklessness, willful misconduct, breach of contract or Law or violation of a Governmental Approval of any of the Design-Build Team-Related Entities; (ii) the events (or the effects of such events) could have been avoided by the exercise of reasonable caution, due diligence, or other reasonable efforts by Design-Build Team:

(a) Force Majeure Event;

(b) Latent defects in Existing Improvements;

(c) Change in Law;

(d) Discriminatory Action;

(e) GDOT's failure to perform or observe any of the covenants or obligations of GDOT under the Agreement or other DB Documents;

(f) GDOT Change;

(g) GDOT -Caused Delay;

(h) Performance of work in or directly adjacent to the Construction Maintenance Limits or Operations and Maintenance Limits, as well as any work by Separate Contractors within the ROW, carried out by or on behalf of GDOT or a Governmental Entity, excluding any Utility Adjustment Work by a Utility Owner, that directly disrupts Design-Build Team's onsite Work, or other documented delays to the Critical Path of the Work directly caused a Separate Contractor working on behalf of GDOT or a Governmental Entitiy;

(i) Discovery at, near or on the Existing Right of Way or Property of (a) any Pre-existing Hazardous Materials or Hazardous Materials not otherwise constituting a Design-Build Team Release of Hazardous Materials, provided that where such condition was identified in the existing Phase 1 Hazardous Materials Investigation included in the RIDs, Design-Build Team shall account for same in the Project Schedule and impacts shall be limited to such conditions not identified therein (whether in type or quantity), or (b) any archeological, paleontological or cultural resources not known to Design-Build Team prior to the Proposal Due Date;

(j) Discovery of (i) subsurface or latent physical conditions at the actual boring holes identified in the geotechnical reports included in the Reference Information Documents that differ materially from the subsurface conditions indicated in such geotechnical reports at such boring holes, excluding any such conditions known to Design-Build Team prior to the Proposal Due Date, or (ii) physical conditions within the Existing Right of Way or Property of an unusual nature, differing materially from those ordinarily encountered in the area and generally recognized as inherent in the type of work provided for in the Agreement, excluding any such conditions known to Design-Build Team prior to the Proposal Due Date or that would become known to Design-Build Team by undertaking reasonable investigation prior to the Proposal Due Date (for avoidance of doubt, conditions away from the actual boring holes that differ from conditions extrapolated from such boring data and that are not within clause (ii) above are not a Relief Event);

(k) Discovery at, near or on the Existing Right of Way or Property of any Threatened or Endangered Species (regardless of whether the species is listed as threatened or endangered as of the Proposal Due Date), excluding any such presence of species known to Design-Build Team prior to the Proposal Due Date or that would become known to Design-Build Team by undertaking reasonable investigation prior to the Proposal Due Date;

(l) Any spill of Hazardous Material by a third party who is not acting in the capacity of a Design-Build Team-Related Entity which (i) occurs after the Proposal Due Date, (ii) is required to be reported to a Governmental Entity and (iii) renders use of the roadway or construction area unsafe or potentially unsafe absent assessment, containment and/or remediation;

(m) Issuance of a temporary restraining order or other form of injunction by a court that prohibits prosecution of any material portion of the Work;

(n) Suspension, termination or interruption of an Approval of Environmental Documents, except to the extent that such suspension, termination or interruption results from failure by any Design-Build Team-Related Entity to locate or design the Project or carry out the work in accordance with the Approval of Environmental Documents or other Governmental Approval (which failure may include (i) modification by or on behalf of Design-Build Team of the design concept included in the Environmental Documents approval, (ii) means or methods used by any Design-Build Team-Related Entity for carrying out the Work, or (iii) decision or action by or on behalf of Design-Build Team to use or acquire Additional Property);

(o) Any change in the design concept of the Project or any portion thereof resulting from judicial or administrative action taken with respect to a legal challenge to any Approval of Environmental Documents as compared to the design concept indicated in the alternative that was the subject of the Approval of Environmental Documents, except to the extent the change in design concept had already been incorporated into Design-Build Team's design schematics assumed in connection with the DB Contract Sum;

(p) Subject to clause (t) of this definition, failure to obtain, or unreasonable and unjustified delay in obtaining or otherwise maintaining once issued, a Governmental Approval from any Governmental Entity, except to the extent that such failure or delay results from failure by any Design-Build Team-Related Entity to locate or design the Project or carry out the work in accordance with the Approval of Environmental Documents or other Governmental Approval (which failure may include (i) modification by or on behalf of Design-Build Team of the design concept included in the Approval of Environmental Documents, (ii) means or methods used by any Design-Build Team-Related Entity for carrying out the Work, or (iii) decision or action by or on behalf of Design-Build Team to use or acquire Additional Property);

(q) GDOT's (i) lack of good and sufficient title to any parcel in the Existing Right of Way or the Property, to the extent it interferes with or adversely affects performance of Work, (ii) inability or failure to obtain an interest (including by easement or other right of access) to real property not identified in the Proposed Right of Way and required for construction of the Project as demonstrated by Design-Build Team, exclusive of any Additional Properties, Project Specific Locations, or parcels that are solely for the convenience of Design-Build Team, to the extent it interferes with or adversely affects performance of Work, or (iii) the existence at any time following issuance of NTP 3 of any title reservation, condition, easement or encumbrance on any parcel in the Existing Right of Way or Property owned by GDOT, of record or not of record, to the extent it interferes with or adversely affects performance of Work, except any title

reservations, conditions, easements or encumbrances concerning Utilities or otherwise caused, permitted or suffered by a Design-Build Team-Related Entity;

(r) Unreasonable and unjustified delay by a Utility Owner with whom Design-Build Team has been unable to enter into a Utility Agreement in connection with a Utility Adjustment, or failure or delay of any Utility in obtaining any required easement, right of way or other property interest as may be required, provided that all of the "conditions to assistance" described in Article 7.5.7.2 of the Agreement have been satisfied;

(s) Failure to obtain, or unreasonable and unjustified delay in obtaining, an approval from GDOT with respect to a Permitted Design Exception, except to the extent that such failure or delay in obtaining the GDOT approval results from failure by any Design-Build Team-Related Entity to carry out the Work in accordance with the DB Documents;

(t) Failure to obtain, or unreasonable and unjustified delay in obtaining, a Governmental Approval required for a re-evaluation of an Approval of Environmental Documents due to an approved ATC; provided that Design-Build Team shall only be entitled to relief for such failure or delay after expiration of the applicable GDOT Re-evaluation Period; or

(u) Material delays as a result of any modification to the Approval of Environmental Documents as set forth pursuant to subpart (a) of the definition of Approval of Environmental Documents as provided in Exhibit 1 hereto, as a result of the Environmental Documents, and all approved supplements and re-evaluations pertaining to the Project as of the Effective Date as provided in subpart (b) of such definition, provided that any such modifications are not the result of an ATC, Additional Properties, or attributable to Design-Build Team's design.

Relief Event Determination has the meaning set forth in Article 13.1 of the Agreement.

Relief Event Notice means the written notice required to be provided by Design-Build Team under Article 13.1.1 of the Agreement.

Replacement Housing Calculation means the opportunity to provide the displaced person with the financial assistance to purchase or rent and occupy a comparable replacement dwelling without involuntarily incurring additional financial means due to the displacement.

Replacement Utility Property Interest means any permanent right, title or interest in real property outside of the Property (e.g., a fee or an easement) that is acquired for a Utility being reinstalled in a new location as a part of the Utility Adjustment Work. The term specifically excludes any statutory right of occupancy or permit granted by a Governmental Entity for occupancy of its real property by a Utility.

Request for Change Proposal means a written notice issued by GDOT to Design-Build Team setting forth a proposed GDOT Change and requesting Design-Build Team's assessment of cost, and schedule impacts thereof, as set forth in Article 14.1.2 of the Agreement.

Request for Information means a written request by the DB Team to GDOT requesting clarification of the DB Document requirements.

Request for Proposals (RFP) means all documents, whether attached or incorporated by reference, utilized for soliciting proposals. The RFP is the only solicitation utilized by the

Department in the One Phase Low Bid selection method. The RFP is the second phase utilized by the Department for the Two Phase Low Bid and Best Value selection methods.

Request for Qualifications (RFQ) means all documents, whether attached or incorporated by reference, utilized by the Department for soliciting interested Proposers to apply for prequalification including instruction for submitting a Statement of Qualification (SOQ), evaluation criteria and minimum qualifications required of a Design-Build Team. The RFQ is the first phase of a two phase process utilized by the Department for the Two Phase Low Bid and Best Value selection methods.

Reserved means a section of the DB Documents (Design-Build Agreement, Technical Provisions, or Programmatic Provisions) that is not being utilized for this contract. Sections marked Reserved have no requirements and references to sections marked Reserved shall mean that there are no additional requirements beyond the reference point.

Right of Way or **ROW** means the Existing Right of Way and Proposed Right of Way.

Right of Way Acquisition Plan or **ROW Acquisition Plan** has the meaning set forth in Section 5 of Volume 3.

Rules have the meaning set forth in Recital C of the Agreement.

Safety Compliance means any and all improvements, repair, reconstruction, rehabilitation, restoration, renewal, replacement and changes in configuration or procedures respecting the Project to correct a specific safety condition or risk of the Project that GDOT has reasonably determined to exist by investigation or analysis and that is in violation of the requirements of the DB Documents.

Safety Compliance Order means a written order or directive from GDOT to Design-Build Team to implement Safety Compliance measures.

Safety Standards means those provisions of the Technical Provisions or Technical Documents that GDOT, FHWA, OSHA, or AASHTO considers to be important measures to protect public safety or worker safety. As a matter of clarification, provisions of Technical Provisions or Technical Documents primarily directed at durability of materials or equipment, where the durability is primarily a matter of life cycle cost rather than protecting public or worker safety, are not Safety Standards.

Schedule of Values means a detailed line item valuations for all Elements of the Work which lists all Payment Activities in a format that provides a sufficiently breakdown of the Pay Items. Include the Schedule of Values a rational basis for partial payments of the Lump Sum bid based on the completed portion of the item and definitive activities. Payment will not be made for individual construction activities. No payments will be made until the Schedule of Values is accepted. Mobilization, and Payment and Performance Bonds may be included as separate line items in the Schedule of Values. Any amount for Mobilization set forth in the Schedule of Values shall not exceed 2.5% of the total construction cost.

Schematic Plan of Project means Design-Build Team's schematic plan specific to the preliminary roadway plans showing the concept and technical solutions in accordance with the provisions of the Instructions to Proposers, Exhibit C.

Security Document means any mortgage, deed of trust, pledge, lien, indenture, trust agreement, hypothecation, assignment, collateral assignment, financing statement under the Uniform Commercial Code of any jurisdiction, security instrument or other charge or encumbrance of any kind, including any lease in the nature of a security instrument, given to any Person as security for Design-Build Team Debt or Design-Build Team's obligations pertaining to Design-Build Team Debt and encumbering the Design-Build Team's Interest.

Selection Recommendation Committee means the group of individuals authorized by GDOT (if any) to recommend the Best Value Proposer to the Steering Committee.

Separate Contractor(s) means each and any separate contractor or vendor engaged by GDOT or any other governmental authority or agency of the State to perform, provide, and/or supply work, services, labor or materials for the Project that is expressly excluded from Design-Build Team's Work pursuant to the DB Documents.

Service Line means a Utility line, the function of which is to directly connect the improvements on an individual property to another Utility line located off such property, which other Utility line connects more than one such individual line to a larger system. However, unless otherwise noted in the Technical Provisions, the term "Service Line" excludes any line that supplies an active feed from a Utility Owner's facilities to supply, activate or energize GDOT's or a Governmental Entity's Highway Service System. Such line, including its actual connection to the Utility facility, shall instead be considered to be part of the applicable Highway Service System.

Site means the Property and any temporary rights or interests that Design-Build Team may acquire in connection with the Project or the Utility Adjustments included in the Construction Work, including Project Specific Locations.

Source Code and **Source Code Documentation** mean software written in programming languages, such as C++ and Fortran, including all comments and procedural code, such as job control language statements, in a form intelligible to trained programmers and capable of being translated into object or machine readable code for operation on computer equipment through assembly or compiling, and accompanied by documentation, including flow charts, schematics, statements of principles of operations, architectural standards, and commentary, explanations and instructions for compiling, describing the data flows, data structures, and control logic of the software in sufficient detail to enable a trained programmer through study of such documentation to maintain and/or modify the software without undue experimentation. Source Code and Source Code Documentation also include all modifications, additions, substitutions, updates, upgrades and corrections made to the foregoing items.

SRTA means the State Road and Tollway Authority.

Staged Design Submittals shall have the meaning set forth in Section 23.2.1 in the Technical Provisions.

Standard Utility Agreement (SUA) means an Agreement providing for relocation or adjustment work to be performed by the Utility and/or its consultant or contractor and modification of easement limited provisions, if applicable. To the extent practical, reimbursement by the Department will be made based upon the Department's specifications, agreements and forms or consultant and construction contract work. The payment method may be actual cost, unit price, or lump sum as appropriate.

State means the State of Georgia.

State and Local Government Series (SLGS) Index means the State and Local Government Series (SLGS) Index published and maintained by the United States Department of the Treasury.

State Highway means a highway designated as part of the state highway system under Code 32-4-21.

Statement of Qualifications or **SOQ** has the meaning set forth in Section 1.1 of the ITP.

Stipulated Fee means the amount GDOT will pay unsuccessful responsive Proposers for their Work Product.

Subcontractor means any other Person, including any Supplier with whom any Contractor has further subcontracted, purchased or procured any part of the Work, at all tiers.

Submittal means any document, work product or other written or electronic end product or item required under the DB Documents to be delivered or submitted to GDOT, as applicable.

Substantial Completion means satisfaction of the criteria for completion of Construction Work as set forth in Article 7.7 of the Agreement, as and when confirmed by GDOT's issuance of a certificate in accordance with the procedures and within the time frame established in Article 7.7.1 of the Agreement.

Substantial Completion Date means the date upon which Design-Build Team has satisfied all conditions of and for Substantial Completion.

Substantial Completion Deadline means the deadline and required date for Substantial Completion of the Project as set forth in the Milestone Schedule, as such deadline may be extended for Relief Events from time to time pursuant to the Agreement, time being of the essence.

Substitute has the meaning set forth in the Direct Agreement.

Subsurface Utility Engineering (SUE) means an engineering process for accurately identifying the quality of subsurface utility information needed for highway plans, and for acquiring and managing that level of information during the development of a highway project, as more particularly described at the FHWA website http://www.fhwa.dot.gov/programadmin/sueindex.cfm.

Supplemental Agreement means a mutual agreement between GDOT and Design-Build Team for changes in the Work under Article 14 of the Agreement, including on account of any Relief Event Determination and/or Compensation Event Determination as set forth under Article 14.4 of the Agreement.

Supplier means any Person not performing work at or on the Site that supplies machinery, equipment, materials, hardware, software, systems or any other appurtenance to the

Project to Design-Build Team or to any Contractor in connection with the performance of the Work. Persons who merely transport, pick up, deliver or carry materials, personnel, parts or equipment or any other similar items or persons to or from the Site shall not be deemed to be performing Work at the Site.

Surety means each properly licensed surety company, insurance company or other Person approved by GDOT, which has issued any of the P&P Bonds.

Taxes means federal, State, local or foreign income, margin, gross receipts, sales, use, excise, transfer, consumer, license, payroll, employment, severance, stamp, business, occupation, premium, windfall profits, environmental (including taxes under Section 59A of the Internal Revenue Code of 1986, as amended), customs, permit, capital stock, franchise, profits, withholding, social security (or similar), unemployment, disability, real property, personal property, registration, value added, alternative or add-on minimum, estimated or other taxes, levies, imposts, duties, fees or charges imposed, levied, collected, withheld or assessed at any time, whether direct or indirect, relating to, or incurred in connection with, the Project, the performance of the Work, or act, business, status or transaction of Design-Build Team, including any interest, penalty or addition thereto, and including utility rates or rents, in all cases whether disputed or undisputed.

Technical Documents means all the standards, criteria, requirements, conditions, procedures, specifications and other provisions set forth in the manuals and documents identified in the DB Documents, as such provisions may (a) have been generally revised from time to time up the RFP advertisement date, or (b) be changed, added to or replaced pursuant to the Agreement.

Technical Provisions means Volume 2 and Volume 3; as such documents may (a) have been generally revised from time to time up to ninety (90) days prior to the Proposal Due Date, or (b) be changed, added to or replaced pursuant to the Agreement.

Technical Proposal means the technical component of the Proposal evaluation as described ITP.

Technology Enhancements means modifications, additions, refinements, substitutions, revisions, replacements and upgrades made to or in place of electronic toll collection and enforcement systems deployed on or for the Project or to any other computer systems or other technology used for the operation of the Project, or to any related documentation, that accomplish incidental, performance, structural, or functional improvements. The term specifically includes modifications, updates, revisions, replacements and upgrades made to or in place of software or any related documentation that correct errors or safety hazards or support new models of computer hardware with which the software is designed to operate. Technology Enhancements also include such new models of computer hardware.

Term has the meaning set forth in Article 3.1.1 of the Agreement.

Termination by Court Ruling has the meaning set forth in Article 19.11 of the Agreement.

Termination Compensation means each of the measure of compensation owing from GDOT to Design-Build Team upon termination of the Agreement prior to the stated expiration of the Term, pursuant to Article 19, and as set forth in Exhibit 20 to the Agreement.

Termination Date means (a) the date of expiration of the Term or (b) if applicable, the Early Termination Date.

Termination for Convenience has the meaning set forth in Article 19.1.1 of the Agreement.

Third Party Claims means, subject to Article 16.5.4 of the Agreement, any and all claims, disputes, disagreements, causes of action, demands, suits, actions, investigations, or legal or administrative proceedings asserted, initiated or brought by a Person that is not an Indemnified Party or Design-Build Team with respect to any Third Party Loss.

Third Party Loss means, subject to Article 16.5.4 of the Agreement, any actual or alleged Loss sustained or incurred by a Person that is not an Indemnified Party or Design-Build Team.

Threatened or Endangered Species means any species listed by the USFWS as threatened or endangered pursuant to the Endangered Species Act, as amended, 16 U.S.C. §§ 1531, *et seq*.

Tolling Integration Deadline means each certain Milestone Schedule Deadline, as set forth in the Milestone Schedule, as may be adjusted by the Project Baseline Schedule, for completion of such portions of the Work as necessary and required to allow the Tolling Integration Contractor to commence and complete the Tolling Integration Work.

Traffic Management Center is a center for the management and distribution of information to Users on a regional or statewide basis.

Transferee means any party as defined pursuant to Article 21.2.2.1 of the Agreement, solely for purposes of Articles 21.2 through 21.5 of the Agreement.

Transponder means the in-vehicle device that permits Users to communicate, identify, and conduct an electronic toll transaction with Design-Build Team's ETCS.

Transportation Management Plan means Design-Build Team's plan for transportation management throughout the Term, as more particularly described in Article 9.2.2 the Agreement and Section 18.2.1 of the Technical Provisions.

Travel Lane means the portion of roadway for the movement of vehiles, exclusive of shoulders.

Uniform Act means the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act, P.L. 91-646, as amended.

Uninsurable Risk means a risk, or any component of a risk, against which Design-Build Team or a Contractor is required to insure pursuant to the Agreement and for which, at any time after the Effective Date, either:

(a) the insurance coverage required under the Agreement is not available in relation to that risk from insurers that meet the qualifications set forth in Article 16.1.2.1 of the Agreement; or

(b) the terms and conditions for insuring that risk are such that the risk is not generally being insured against in the insurance market under commercially reasonable terms from insurers that meet the qualifications set forth in Article 16.1.2.1 of the Agreement.

Utility or **utility** means any of the following:

(a) a public, private, cooperative, municipal and/or government line, facility or system used for the carriage, transmission and/or distribution of cable television, electric power, telephone, telegraph, water, gas, oil, petroleum products, steam, chemicals, hydrocarbons, telecommunications, sewage, and similar commodities, that directly or indirectly serves the public;

(b) a line, facility or system which (i) carries or transmits a commodity referenced in clause (a) above but does not directly or indirectly serve the public, and (ii) is designated in Volume 1 or Volume 2 to be treated, for purposes of the DB Documents only, in the same manner as a line, facility or system that qualifies as a Utility under clause (a) above; and

(c) a radio tower or transmission tower (including cellular) that directly or indirectly serve the public.

Notwithstanding the foregoing, the term "Utility" or "utility" excludes:

(a) all storm water lines, facilities, and systems that are part of the drainage system for the Property or connect to that system; and

(b) GDOT's or a Governmental Entity's Highway Service Systems.

The necessary appurtenances to each Utility facility shall be considered part of such Utility. Any Service Line connecting directly to a Utility shall be considered an appurtenance to that Utility, regardless of the ownership of such Service Line.

Utility Accommodation Manual (UAM) means the Utility Accommodation Manual issued by GDOT, at Ga. Comp. R. & Regs. r. 672-11-.01 through -.04, as the same may be amended, supplemented or replaced by GDOT from time to time.

Utility Adjustment Field Modification means any horizontal or vertical design change to a Utility Adjustment required by Design-Build Team or proposed by a Utility Owner due either to roadway design or to conditions not accurately reflected in the corresponding Utility Work Plan for which the review and comment/approval process has been completed, that alters the design included in the approved Utility Work Plan. An example would be shifting the alignment of an 8" water line to miss a roadway drainage structure. A minor change (e.g., an additional water valve, an added Utility marker at ROW line, a change in vertical bend, etc.) will not be considered a Utility Adjustment Field Modification, but shall be shown in the Record Drawings.

Utility Adjustment means each relocation (temporary or permanent), abandonment, Protection in Place, removal (of previously abandoned Utilities as well as of newly abandoned Utilities), replacement, reinstallation, and/or modification of existing Utilities necessary to accommodate construction, operation, maintenance and/or use of the Project; provided, however, that the term "Utility Adjustment" shall not refer to any of the work associated with facilities owned by any railroad. For any Utility crossing the Property, the Utility Adjustment Work for each crossing of the Property by that Utility shall be considered a separate Utility

Adjustment. For any Utility installed longitudinally within the Property, the Utility Adjustment Work for each continuous segment of that Utility located within the Property shall be considered a separate Utility Adjustment.

Utility Adjustment Work means all efforts and costs necessary to accomplish the required Utility Adjustments, including all coordination, design, design review, permitting, construction, inspection, maintenance of records, relinquishment of Existing Utility Property Interests, preparation of Utility Joint Use Acknowledgements, and acquisition of Replacement Utility Property Interests, whether provided by Design-Build Team or by the Utility Owners. The term also includes any reimbursement of Utility Owners which is Design-Build Team's responsibility pursuant to Article 7.5 of the Agreement. Any Utility Adjustment Work furnished or performed by Design-Build Team is part of the Work; any Utility Adjustment Work furnished or performed by a Utility Owner is not part of the Work.

Utility Enhancement means a Betterment or a Utility Owner Project, as referenced in Article 7.5.6 of the Agreement.

UtilityJoint Use Acknowledgment or **Utility Joint Use Agreement** means an agreement between GDOT and a Utility Owner that establishes the rights and obligations of GDOT and the Utility Owner with respect to occupancy of the Property by such Utility Owner's Utility.

Utility Manager (UM) means the senior staff person designated by Design-Build Team to be responsible for coordination and oversight of Utility Adjustment operations during the planning, design, and construction phases of the Work, as more particularly described in Section 6.2.3 of the Technical Provisions.

Utility Owner means the owner or operator of any Utility (including both privately held and publicly held entities, cooperative utilities, and municipalities and other governmental agencies).

Utility Owner Project means the design and construction by or at the direction of a Utility Owner (or by Design-Build Team) of a new Utility other than (a) as part of a Utility Adjustment or (b) to provide service to the Project. Betterments are not Utility Owner Projects. Utility Owner Projects are entirely the financial obligation of the Utility Owner.

Utility Tracking Report means the report regarding Utilities likely to be impacted by the Project, which Design-Build Team shall maintain on a current basis, as more particularly described in Section 6.5.1 of the Technical Provisions.

Utility Work Plan means the collection of agreements, plans and other information and materials which Design-Build Team is required to submit to GDOT in connection with each Utility Adjustment, as more particularly described in Section 6.3.4.5 of the Technical Provisions. Depending on the context, the term also refers to Supplemental Utility Work Plans and Utility Work Plan Retention Requests (both also described in Section 6.3.4.5 of the Technical Provisions).

Utility Work Plan Checklist means a checklist listing the required components of a Utility Work Plan, as referenced in Section 6.3.4.5 of the Technical Provisions.

Utility Work Plan Retention Request means the collection of plans and other information and materials which Design-Build Team is required to submit to GDOT in connection with each Utility proposed to remain at its original location within the Existing Right of Way or Property, as more particularly described in Section 6.3.4.5 of the Technical Provisions; a single Utility Work Plan Retention Request may address more than one such Utility.

Volume 1 means the DB Agreement.

Volume 2 means the project-specific technical provisions entitled "Technical Provisions for DB Agreement - Volume 2".

Volume 3 means GDOT's technical provisions entitled "Programmatic Technical Provisions for DB Agreement - Volume 3".

Warning Notice means a written notice that GDOT delivers to Design-Build Team pursuant to Article 17.2 of the Agreement.

Work means all of the work required to be furnished and provided by Design-Build Team under the DB Documents for the Project, including without limitation, all administrative, design, engineering, construction, Utility Adjustment, utility accommodation, support services, ECTS and software integration, and coordination, except for those efforts which such DB Documents expressly specify will be performed by Persons other than Design-Build Team-Related Entities, all as required and as may reasonably inferred for full and proper completion of the Project in accordance with this Agreement and the DB Documents.

Work Breakdown Structure means a deliverable-oriented hierarchical structure that breaks the Work into elements that have distinct identification and that contain specific scope characteristics. Each descending WBS level represents an increasingly detailed delineation of elements of the total Project scope. The WBS will contain elements of Design Work and Construction Work. There shall be clearly identifiable linkage between the WBS, the elements of the Work, and Project Schedule. The WBS numbering convention shall be compatible with Project Baseline Schedule coding and may be compatible with document control coding.

Work Product means any design files, concepts, ideas, technology, techniques, methods, processes, drawings, reports, plans and specifications used in the development of the bid and technical proposal including any ATCs being acquired by the GDOT.

EXHIBIT 2

DESIGN-BUILD TEAM'S KEY PERSONNEL – EXECUTED FORM G

Identified Key Personnel

[To be provided with execution version]

EXHIBIT 3

RESERVED

EXHIBIT 4

RIGHT OF WAY
(Existing Right of Way and Required Right of Way)

The form and content of this Exhibit 4 is set forth on the Secure Sharepoint site found at http://teams.dot.ga.gov/offices/IPD/SitePages/Home.aspx

EXHIBIT 5

RESERVED

EXHIBIT 6

RESERVED

EXHIBIT 7

RESERVED

EXHIBIT 8

STATE FUNDED REQUIREMENTS

Attachment 6 Small, Veteran, and Disadvantaged Business Special Provision (SVDBE)

First 12/21/2016
Rev 01/10/2017

State Funded Projects

Small, Veteran, and Disadvantaged Business Special Provision

(SVDBE)

I. General Description

Subcontract a portion of the work to firms designated by the Department as Small, Veterans, or Disadvantaged Business Enterprise.

A Small, Veteran, and Disadvantaged Business Enterprise (SVDBE) Goal is specified in certain contracts funded through the Georgia Transportation Act of 2015. A portion of the project goal, not greater than 50% of the specified Goal, may be achieved through the use of Small and/or Veteran owned businesses. The entire goal may be met through the use of GDOT approved DBEs.

II. SVDBE Directories

- Small Business entities are those firms identified as such in the Georgia Procurement Registry at the time of the bid submission.
- Veteran Owned firms are those firms identified by the U.S. Department of Veteran Affairs at the time of the bid submission.
- DBE firms are those identified by the Georgia Department of Transportation's Unified Certification Program at the time of the bid submission.

III. Bid Proposal Submittals

The Department reserves the right to reject and disqualify any Proposal if the apparent low bidder fails to provide a list of bona fide SVDBE participants within 7 calendar days after the bid letting date. The submission shall provide participation meeting at least the established goal.

The Department may consider for award a proposal with less participation than the established goal if both:

- The bidder can demonstrate that no greater participation could be obtained and;
- The participation proposed by the low bidder is not substantially less than the participation proposed by the other bidders on the same contract.

Contractor(s) demonstrating good business judgment shall consider a number of factors in negotiating with SVDBEs, and shall take a firm's price and capabilities as well as contract goals into consideration. The fact there may be some additional costs involved in finding and using SVDBEs is not in itself sufficient reason for a bidder's failure to meet the contract SVDBE goal, so long as such costs are reasonable.

Contractors are not required to accept higher quotes from a SVDBE if the price difference is excessive or unreasonable. The ability or desire of a Contractor to perform the work of a contract with its own organization does not relieve the Contractor of the responsibility to make good faith efforts.

Issuance of the Notice to Proceed does not approve the individual SVDBE firms. Department reserves the right to approve or disapprove a SVDBE firm after review of the SVDBE firm and contract agreements. SVDBE firms must be Registered or Prequalified with the Georgia Department of Transportation to perform work on projects unless otherwise stated in Specification Section 108.

IV. Participation Requirements

Submit a "SVDBE Participation Report" monthly to the Department's Engineer. The report shall include the following:

1) Name of each firm participating in the contract.

2) Designation of the participating firm/s as DBE, Small Business or Veteran Owned firm.

3) Description of the work to be performed, materials, supplies, and/or services provided by each SVDBE.

4) Whether each SVDBE is a supplier, subcontractor, owner/operator, or other.

5) Dollar value of each SVDBE subcontract or supply agreement.

6) Actual payment to date of each SVDBE participating in the contract.

V. Measurement

Copy of the SVBE Report shall be transmitted promptly to the Engineer. Failure to submit the report within 30 calendar days following the end of the month may cause payment to the contractor to be withheld.

To substitute a SVDBE listed in the SVDBE plan, take all reasonable efforts to replace a SVDBE Subcontractor with another SVDBE. Send all removal and replacement requests to the Department for approval prior to the substituted firm beginning work.

Actively demonstrate Good Faith Efforts in meeting the Goal throughout the contract time. Good Faith Efforts may be actions taken to assist interested SVDBEs in obtaining bonding, lines of credit, or insurance as required by the contractor, actions taken to assist interested SVDBEs in obtaining necessary equipment, supplies, materials, or related assistance or services, and/or using the services available from minority/women centered community organizations; Contractors' groups; local, state, and Office of EEO Supportive Services Staff; and other organizations as allowed on a case-by-case basis to provide assistance in the recruitment and placement of SVDBEs.

VI. Payment

Issuance of the Contract Award and/or Notice to Proceed does not approve the individual SVDBE firms. Payment to the Contractor under the contract may be withheld until final approval of the listed SVDBE is granted by the Department through the subcontract approval process.

Progress Payments for any work performed may be withheld to a Contractor found to be in noncompliance with this provision, until corrective action is taken.

Questions concerning DBE Certification/Criteria or other small or veteran owned business issues should be directed to the EEO Office at (404) 631-1972.

EXHIBIT 9

MILESTONE SCHEDULE

Milestone	Deadline
Substantial Completion Deadline	1095 days after the date GDOT issues NTP1
Final Acceptance	1095 days after the date GDOT issues NTP 1

Bridge Serial Number	Roadway	Intermediate Completion (Allowable number of Calendar days for roadway closure)
091-0032-0	Milan-Chauncy Road	150
093-5006-0	Weeks Road	120
071-0050-0	Doerun-Norman Park	180
239-0009-0	Lower Lumpkin Road	180
101-5003-0	Toms Creek Road	180
275-5003-0	Reichertville Road	75

EXHIBIT 10

RESERVED

EXHIBIT 11

HAZARDOUS MATERIALS RISK ALLOCATION TERMS

1. Design-Build Team shall be solely responsible for Hazardous Materials Management, including all required remediation and disposal of Hazardous Materials that constitute Design-Build Team Releases of Hazardous Materials or which are otherwise with respect to any Additional Properties or Project Specific Locations, Design-Build Team shall be responsible for all Hazardous Materials Management for Design-Build Team Release(s) of Hazardous Materials or with respect to Additional Properties, even if the required Hazardous Materials Management extends beyond the end of the Term or Final Acceptance of the Work.

2. Other than a Design-Build Team Releases of Hazardous Materials or with respect to any Additional Properties or Project Specific Locations, GDOT shall, at its own expense shall manage, treat, handle, store, remediate, remove, transport (where applicable), investigate, oversee and dispose of such Hazardous Materials in accordance with applicable Law and Governmental Approvals or otherwise enter into a Supplement Agreement with the Design-Build Team, or order such Work pursuant to Directive Letter (provided that GDOT may not require any long term monitoring of Hazardous Materials under any such Directive Letter), with respect to same.

3. Notwithstanding the aforementioned or anything to the contrary in the Agreement, none of the following costs and expenses shall be chargeable to or reimbursed by GDOT:

(a) Costs and expenses to the extent attributable to Design-Build Team Releases of Hazardous Materials;

(b) Delay and disruption costs and expenses, except to the extent expressly set forth under the Agreement;

(c) Costs and expenses that could be avoided by the exercise of commercially reasonable efforts to mitigate and reduce cost; and

(d) Attorney's fees or other expenses incurred by Design-Build Team in demonstrating or determining the proportionate responsibility between the parties as to Design-Build Team Releases of Hazardous Materials, GDOT Releases of Hazardous Materials, Pre-existing Hazardous Materials, and/or Hazardous Materials due to any third party.

4. Nothing contained herein shall be interpreted to limit Design-Build Team's obligations with respect to Articles 7.8 or 7.9 of the Agreement.

EXHIBIT 12

RESERVED

EXHIBIT 13

RESERVED

EXHIBIT 14

RESERVED

EXHIBIT 15

RESERVED

EXHIBIT 16

RESERVED

EXHIBIT 17

RESERVED

EXHIBIT 18

MEASURES OF LIQUIDATED DAMAGES and NONREFUNDABLE DEDUCTIONS

1.1 For Late Substantial Completion and Late Final Acceptance

(a) Liquidated damages for late Substantial Completion for the Project shall equal **$713** per day for each day that the Substantial Completion Date is later than the Substantial Completion Deadline, as the Substantial Completion Deadline may be extended pursuant to this Agreement.

(b) Liquidated damages for late Final Acceptance shall equal **$713** per day for each day that the date of Final Acceptance is later than the Final Acceptance Deadline, as the Final Acceptance Deadline may be extended pursuant to this Agreement.

(c) Liquidated damages on account of any failure to achieve Final Acceptance by the Final Acceptance Deadline shall not be in cumulative and addition to liquidated damages under subpart (a) above where Substantial Completion is not achieved by the Substantial Completion Deadline, provided that where any such liquidated damages under subpart (a) cease to then accrue as a result of achieving Substantial Completion, and the Final Acceptance Deadline, as may thereafter be revised is not met, subpart (b) shall then apply.

(d) Liquidated damages for late Intermediate Completion for each bridge site to open the roadway after closure shall equal **$713** per day for each day that the Intermediate Completion Date is later than the Intermediate Completion Deadline per site, as the Intermediate Completion Deadline may be extened pursuant to this Agreement.

1.2 Incident Based Liquidated Damages

Liquidated damages upon the occurrence of the following, which shall not be cumulative, for any single occurrence. Where there are multiple incidents as set forth below contributing to a single occurrence, the highest applicable incident based liquidated damages relative to such occurrence shall apply.

1	Failure to reopen lanes specified in Volume 2 Section 18	**$**100 **per hour***

*In addition to liquidated damages, DB Team shall be liable for any fines assessed against GDOT as a result of the any noncompliance event as provided herein.

1.3 Incident Based Nonrefundable Deductions

Nonrefundable deductions upon the occurrence of the following, which shall not be cumulative, for any single occurrence. Where there are multiple incidents as set forth below contributing to a single occurrence, the highest applicable incident based liquidated damages relative to such occurrence shall apply.

1	Causing environmental damage in contravention of Section 4 of the Technical Provisions and the latest approved Environmental Documents.	**$**500 **per occurrence***

2	Failure to follow the approved procedures outlined in the Utility Emergency Procedures Plan as required in Section 6 of Technical Provisions.	**$**1,000 **per occurrence***

*In addition to nonrefundable deductions, DB Team shall be liable for any fines assessed against GDOT as a result of the any noncompliance event as provided.

EXHIBIT 19

RESERVED

EXHIBIT 20

TERMS FOR TERMINATION COMPENSATION

A. Compensation on Termination for Convenience, for GDOT Default, or for GDOT Suspension of Work

1. In the event of termination of the Agreement under Article 19.1 (Termination for Convenience) or Article 19.4 (Termination for GDOT Default or Suspension of Work), the Termination Compensation shall equal:

(i) That portion of the DB Contract Sum on account of (a) Work performed; plus

(ii) The amount necessary to reimburse reasonable and documented out-of-pocket costs of third party and Affiliate Contractors to demobilize and terminate under Contracts between Design-Build Team and third parties or Affiliates for performance of Work, excluding Design-Build Team's non-contractual liabilities and indemnity liabilities (contractual or non-contractual) to third parties or Affiliates; plus

(iii) If termination occurs prior to Substantial Completion, Design-Build Team's own reasonable and documented out-of-pocket costs to demobilize (without duplication) and carry out termination obligations as may directed by GDOT or required pursuant to the Agreement; plus

(iv) Any reimbursement due to Design-Build Team pursuant to Article 17.3.6.2(b); plus

(v) Breakage Costs; minus

(vi) The amount of all distributions and all payments to Affiliates in excess of reasonable compensation for necessary services or that are advance payments in violation of Article 10.5.3 of the Agreement, between the date notice of conditional election to terminate is delivered and the Early Termination Date, but without double counting of the amounts under any clauses above; minus

(vii) The sum of (i) the greater of (A) the proceeds received from insurance (including casualty insurance and business interruption insurance) that is required to be carried pursuant to Article 16.1 of the Agreement and provides coverage to pay, reimburse or provide for any of the costs and losses attributable to any Force Majeure Event, and (B) the proceeds received from insurance that is actually carried by or insuring Design-Build Team under policies solely with respect to the Project and the Work, regardless of whether required to be carried pursuant to Article 16.1 of the Agreement, and that provides coverage to pay, reimburse or provide for any of the costs and losses attributable to any Force Majeure Event, plus (ii) the foregoing costs and losses that Design-Build Team is deemed to have self-insured pursuant to Article 16.1.4.3 of the Agreement; minus

(viii) The portion of any Compensation Amounts previously paid to (or charged against) Design-Build Team that compensated Design-Build Team for Work attributable to the period after the Early Termination Date.

2. In the event of termination of the Agreement under Article 19.1 (Termination for Convenience) or Article 19.4 (Termination for GDOT Default or Suspension of Work), any such Termination Compensation shall be payable by GDOT as follows:

(i) For Termination for Convenience

(a) Termination for Convenience shall be valid and effective on the date set forth in the Notice of Termination for Convenience, which date shall not be more than three (3) months after the date the notice is delivered.

(b) GDOT shall deliver to Design-Build Team, in immediately available funds, within sixty (60) days after the Early Termination Date, the Termination Compensation due, less a holdback amount equal to GDOT's reasonable estimate of the costs Design-Build Team will thereafter incur to perform and complete its post-termination obligations under Article 19.5 of the Agreement, subject to Sections (ii)(b) - (d) below.

(ii) For Termination for GDOT Default or Suspension of Work

(a) If the Agreement is terminated due to Design-Build Team's exercise of its right to terminate under Article 19.4 of the Agreement, termination shall be valid and effective on the date notice of termination is delivered; and, subject to Articles 19.3.2 and 19.4.4, GDOT shall deliver to Design-Build Team, in immediately available funds, within sixty (60) days after the Early Termination Date, the Termination Compensation due, less a holdback amount equal to GDOT's reasonable estimate of the costs Design-Build Team will thereafter incur to perform and complete its post-termination obligations under Article 19.5 of the Agreement.

(b) GDOT shall pay the holdback amount to Design-Build Team within ten (10) days after Design-Build Team completes all its post-termination obligations under Article 19.5 of the Agreement.

(c) If as of the date GDOT tenders payment under clause (a) above the Parties have not agreed upon the amount of Termination Compensation due, then:

(i) GDOT shall proceed with such payment to Design-Build Team;

(ii) Within thirty (30) days after receiving such payment Design-Build Team shall deliver to GDOT written notice of the additional amount of Termination Compensation that Design-Build Team in good faith determines is still owing (the "disputed portion");

(iii) GDOT shall pay the disputed portion of the Termination Compensation to Design-Build Team in immediately available funds within thirty (30) days after the disputed portion is determined by settlement, final order or final judgment, and also shall pay interest thereon, at the Default Interest Rate from the Early Termination Date until paid; and

(iv) A failure by GDOT to effect payment by such date shall not entitle Design-Build Team to reinstatement of the Design-Build Team's Interest or to rescission of the termination.

(d) From and after the Early Termination Date until the Termination Compensation is finally determined and paid, the provisions of Article 19.10 of the Agreement shall apply and Design-Build Team shall continue to have a pledge of and security interest in and to the Post-Termination Revenue Account and Security Instruments.

(e) If it is determined by settlement or final judgment that the Termination Compensation due from GDOT is less than the payment previously made by GDOT, then within thirty (30) days after the date of settlement or final judgment Design-Build Team shall reimburse the excess payment, together with interest thereon at the Default Interest Rate from the date of overpayment until the date of reimbursement.

(f) Any amounts to be paid by GDOT pursuant hereto shall be subject to Default Interest Rate from the date that such payment shall be due until paid.

B. Compensation on Termination for Design-Build Team Default

1. Design-Build Team shall not be entitled to receive any compensation where the Agreement is terminated by GDOT pursuant to Article 19.3 as a result a Design-Build Team Default if it has been determined by GDOT that the damages incurred by GDOT and costs to complete the Work as a result of the Design-Build Team Default exceed the unpaid balance of the DB Contract Sum. In no event shall Design-Build Team be entitled to Breakage Fees or any direct costs, including demobilization, associated with a termination by GDOT pursuant to Article 19.3.

C. Claims

1. Notwithstanding anything to the contrary herein, Termination Compensation shall include and be adjusted on account of any outstanding Claim that is independent of the event of termination and which is not otherwise resolved as of the effective date of such termination. The Parties shall adjust the Termination Compensation by the amount of the unpaid award, if any, on the Claim.

2. At GDOT's sole election, it may hold back from payment of the Termination Compensation for deposit into the GDOT Claims Account the amount of any Claim of GDOT against Design-Build Team not resolved prior to payment. GDOT shall provide written notice to Design-Build Team of any such election, the subject Claim and the amount deposited or to be deposited, prior to or concurrently with tendering payment of the Termination Compensation.

3. If as of the date GDOT tenders payment under clause (a) above the Parties have not agreed upon the amount of Termination Compensation due, then:

(i) GDOT shall proceed with such payment to Design-Build Team;

(ii) Within thirty (30) days after receiving such payment Design-Build Team shall deliver to GDOT written notice of the additional amount of Termination Compensation that Design-Build Team in good faith determines is still owing (the "disputed portion");

(iii) GDOT shall pay the disputed portion of the Termination Compensation to Design-Build Team in immediately available funds within thirty (30) days after the disputed portion is determined by settlement, final order or final judgment, together with interest thereon at the Default Interest Rate from the later of the two dates set forth in clause (a) above until paid; and

(iv) Failure by GDOT to effect payment by such date shall not entitle Design-Build Team to reinstatement of the Design-Build Team's Interest or to rescission of the termination.

4. If it is determined by settlement or final judgment that the Termination Compensation due from GDOT is less than the payment previously made by GDOT, then within thirty (30) days after the date of settlement or final judgment Design-Build Team shall reimburse the excess payment, together with interest thereon at the Default Interest Rate from the date of overpayment until the date of reimbursement.

EXHIBIT 21

RESERVED

EXHIBIT 22

INITIAL DESIGNATION OF AUTHORIZED REPRESENTATIVES

GDOT's Authorized Representative:

GDOT hereby designates the persons from time to time serving as the Commissioner of GDOT as its Authorized Representatives and such other persons as the Commissioner may from time to time designate by delivering written notice thereof to Design-Build Team. Any such designations by the Commissioner may be limited in scope and duration and may be revoked at any time by delivery of written notice thereof to Design-Build Team pursuant to Article 24.11 of the Agreement.

Design-Build Team's Authorized Representative:

Design-Build Team hereby designates the persons from time to time serving as the Chief Executive Officer of Design-Build Team as its Authorized Representatives and such other persons as the Chief Executive Officer may from time to time designate by delivering written notice thereof to GDOT. Any such designations by the Chief Executive Officer may be limited in scope and duration and may be revoked at any time by delivery of written notice thereof to GDOT pursuant to Article 24.11 of the Agreement.

EXHIBIT 23

RESERVED

EXHIBIT 24

RESERVED

Georgia Department of Transportation

VOLUME 2

Technical Provisions
For

Design-Build Agreement

FY 17 Bridge Replacement Project

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1 GENERAL

Supplement the following to Section 1 of Volume 3

1.1 Project Scope

The Project is to design and construct the replacement of bridges.

The Design-Build Team will provide design and construction services necessary to replace bridges at locations identified in Attachment 1-1.

1.2 Project Description

1.2.1 Other Considerations

The DB Team's Design Documents for the Project shall comply with all requirements set forth in the DB Documents. The DB Team's Design Documents for the Project shall be consistent with the following:

- Environmental Document Approvals
- Reference Information Documents (RIDs)
- Attachment 1-1

Any additions to the Existing ROW required for construction of the proposed Project shall be illustrated on the DB Team's Design Documents for the Project.

The DB Team shall not rely on the physical description contained herein to identify all Project components. The DB Team shall determine the full scope of the Project through thorough examination of the DB Documents and the Project or as may be reasonably inferred from such examination.

Design and Construction Requirements

DB Team shall design and construct the Project to comply with the requirements of the DB Documents.

DB Team shall coordinate with GDOT and adjacent Governmental Entities and other third parties as appropriate to determine the design criteria, standards, and specifications of those components of Work which the DB Team will construct but which are to be maintained by others. For components of Work which potentially or actually impact the infrastructure of any Governmental Entity or third party entity, DB Team's design shall conform to the design requirements of such entity.

NTP 3 can be issued for each individual bridge site.

Substantial Completion can be issued for each individual bridge site.

2 PROJECT MANAGEMENT

2.1 Project Management Requirements

No additional requirements

2.1.1 Design Quality Assurance

No additional requirements

2.1.2 Construction Quality Control / Quality Assurance

GDOT will provide construction engineering inspection and testing through the Office of Innovative Delivery, or its designee, in accordance with GDOT Specifications and the Engineer of Record's Design Documents.

GDOT will provide plant inspection, testing and certification of plant produced materials at existing GDOT approved plant locations such as for precast/pre-stressed concrete, asphalt, and structural steel fabrication.

2.1.3 Environmental Monitoring

No additional requirements

2.1.4 Right of Way

No additional Right of Way is anticipated. If DB Team determines additional Right of Way is needed, refer to Volume 3.

2.1.5 Safety and Security

No additional requirements

2.1.6 Traffic Management

No additional requirements

2.1.7 Project Communications (Media and Public Information)

A critical objective for all projects is to maintain the trust, support, and confidence of the media and public throughout the life of the project. In order to meet this objective, it will be critical to proactively manage messages and communications to the media. GDOT will be responsible for all communications with the media; all inquiries from media shall be directed to GDOT for responses. The DB Team shall ensure updated project information is provided to GDOT in a timely manner. The DB Team shall document all forms of project communications with Customer Groups, interested citizens, stakeholders, and general public.

2.1.8 Project Closeout

No additional requirements

2.1.9 Project Phasing

No additional requirements

2.1.10 Reserved

2.2 Schedule Requirements

2.2.1 General Schedule Requirements

Supplement the following to Section 2.2.1 of Volume 3

Notify GDOT in writing five (5) days in advance prior to the following activities: pre-pour conferences; pre-pour checks for footing rebar, cap rebar, column rebar, deck rebar, approach slab rebar, and barrier wall rebar; driving piles; setting beams; subgrade compaction; sub-base compaction; and compaction under the approach slabs.

2.2.2 Project Baseline Schedule Requirements

Replace the following to Section 2.2.2 of Volume 3

The Preliminary Baseline Schedule is not required to be submitted with the Proposal.

2.2.3 Narrative Requirements

No additional requirements

2.2.4 Project Schedule Update Requirements

No additional requirements

2.2.5 Revised Project Baseline Schedule

No additional requirements

2.2.6 Schedule Display Requirements

No additional requirements

2.3 Quality Management Requirements

2.3.1 Document Management

No additional requirements

2.3.2 Quality Management Plan Submittal Requirements

No additional requirements

2.3.3 Quality Management Plan Requirements

No additional requirements

2.3.4 Quality Management Plan Structure

No additional requirements

2.3.5 Nonconformance Report (NCR) System

No additional requirements

2.3.5.1 Role Definitions and Order of Review

No additional requirements

2.3.5.2 Disposition Options

No additional requirements

2.3.5.3 Corrective Action

No additional requirements

2.3.5.4 Workflow States

No additional requirements

2.3.6 Quality Management Updates

No additional requirements

2.3.7 Responsibility and Authority of DB Team Staff

No additional requirements

2.3.8 Design Quality Management Plan

No additional requirements

2.3.9 Record Drawings and Documentation

No additional requirements

2.4 Requirements for GDOT Office and Equipment

Supplement the following to Section 2.4 of Volume 3

A field engineer's office is not required for this project.

2.5 Web-Based Project Management Program

No additional requirements

3 PUBLIC INFORMATION AND COMMUNICATIONS

3.1 General Requirements

No additional requirements

3.2 Administrative Requirements

No additional requirements

3.2.1 Public Information and Communications Plan

No additional requirements

3.2.2 Project Information Coordinator

No additional requirements

3.2.3 Reserved

3.2.4 Public Meetings

No additional requirements

3.2.5 Monthly Public Information and Communications Reporting

No additional requirements

3.2.6 Emergency Event Communications

No additional requirements

3.2.7 Public Information

No additional requirements

3.2.8 Public Involvement Action Items

No additional requirements

4 ENVIRONMENTAL

4.1 General Requirements

No additional requirements

4.2 Environmental Approvals

No additional requirements

4.2.1 Responsibilities Regarding Environmental Documents

Supplement the following to Section 4.2.1 of Volume 3

Environmental Documents will not be approved by GDOT prior to contract award.

4.2.2 GDOT Review and Approval of Environmental Permits

No additional requirements

4.3 Required Submittals

No additional requirements

5 RIGHT OF WAY (ROW)

5.1 General Requirements

No additional requirements

5.2 Administrative Requirements

No additional requirements

5.3 DB Team's ROW Scope of Services

No additional requirements

5.4 Responsibilities of DB Team

No additional requirements

5.5 Responsibilities of GDOT

No additional requirements

5.6 GDOT Project Monitor/Reviewer

No additional requirements

5.7 Responsibilities of the Office of the Attorney General

No additional requirements

5.8 ROW Acquisition Plan

No additional requirements

5.9 Schedule and Review Procedures

No additional requirements

5.10 Acquisition Process Summary

No additional requirements

5.11 DB Team Conflict of Interest

No additional requirements

5.12 Meetings

No additional requirements

5.13 Documentation and Reporting

No additional requirements

5.14 Pre-Acquisition Activities

No additional requirements

5.14.1 ROW Plans and Engineering

No additional requirements

5.14.2 Title Services

No additional requirements

5.14.3 Introduction to Property Owners

No additional requirements

5.15 Appraisals

5.15.1 Appraisal Services

No additional requirements

5.16 Acquisition Activities

5.16.1 DB Team Responsibilities During ROW Negotiations

No additional requirements

5.16.2 DB Team Responsibilities During Relocation Assistance

No additional requirements

5.16.3 DB Team Responsibilities During Closings

No additional requirements

5.16.4 DB Team Responsibilities for Condemnation Support

No additional requirements

5.16.5 DB Team Responsibilities for Clearance of ROW

No additional requirements

5.16.6 DB Team Responsibilities for Property Fencing

No additional requirements

5.17 Early ROW Acquisition

No additional requirements

6 UTILITY ADJUSTMENTS

6.1 General Requirements

6.1.1 Utility Adjustment Relocation Costs

No additional requirements

6.1.2 When Utility Adjustment is Required

No additional requirements

6.1.3 Certain Components of the Utility Adjustment Work

No additional requirements

6.1.3.1 Coordination

No additional requirements

6.1.3.2 Betterments

No additional requirements

6.1.3.3 Protection in Place

No additional requirements

6.1.3.4 Abandonment and Removal

No additional requirements

6.1.3.5 Service Lines and Utility Appurtenances

No additional requirements

6.1.3.6 Early Adjustments

No additional requirements

6.1.4 Recordkeeping

No additional requirements

6.2 Administrative Requirements

No additional requirements

6.2.1 Standards

No additional requirements

6.2.2 Communications

No additional requirements

6.2.2.1 Communication with Utility Owners Meetings and Correspondence

No additional requirements

6.2.3 Worksite Utility Coordination Supervisor

No additional requirements

6.2.4 Real Property Matters

No additional requirements

6.2.4.1 Documentation of Existing Utility Property Interests - Affidavits

No additional requirements

6.2.4.2 Acquisition of Replacement Utility Property Interests

No additional requirements

6.2.4.3 Georgia Utility Permit

No additional requirements

6.2.4.4 Documentation Requirements

No additional requirements

6.3 Design

6.3.1 DB Team's Responsibility for Utility Identification

No additional requirements

6.3.2 Technical Criteria and Performance Standards

No additional requirements

6.3.3 Memorandum of Understanding (MOU)

No additional requirements

6.3.4 Utility Work Plans

No additional requirements

6.3.4.1 Plans Prepared by DB Team

No additional requirements

6.3.4.2 Plans Prepared by the Utility Owner

No additional requirements

6.3.4.3 Design Documents

No additional requirements

6.3.4.4 Certain Requirements for Underground Utilities

No additional requirements

6.3.4.5 Utility Work Plan

No additional requirements

6.4 Construction

6.4.1 Reserved

6.4.2 General Construction Criteria

No additional requirements

6.4.3 Inspection of Utility Owner Construction

No additional requirements

6.4.4 Scheduling Utility Adjustment Work

No additional requirements

6.4.5 Standard of Care Regarding Utilities

No additional requirements

6.4.6 Emergency Procedures

No additional requirements

6.4.7 Switch Over to New Facilities

No additional requirements

6.4.8 Traffic Control

No additional requirements

6.5 Deliverables

No additional requirements

6.5.1 Utility Work Plan Submittals

No additional requirements

6.5.2 Preliminary Utility Status Report

No additional requirements

6.5.3 Subsurface Utility Engineering (SUE) Requirements

No additional requirements

6.5.4 Utility As-Built Requirements

No additional requirements

7 RIGHT OF WAY (ROW) – ADDITIONAL PROPERTIES

7.1 General Requirements

Supplement the following to Section 7.1 of Volume 3

Ensure designing and constructing the Project occurs within the Existing ROW as designated in the DB Agreement.

7.2 Administrative Requirements

No additional requirements

7.2.1 Revised ROW Acquisition Plan - Additional Properties Submittals

No additional requirements

7.2.2 DB Teams ROW Properties Scope of Services

No additional requirements

7.2.3 Requirements of DB Team

Field establish the limits of ROW by staking at a minimum spacing of 100 feet prior to construction and ensure no encroachments will occur as a result of construction.

7.2.4 DB Team Conflict of Interest

No additional requirements

7.2.5 Meetings

No additional requirements

7.2.6 Documentation and Reporting

No additional requirements

7.2.7 Responsibilities of GDOT

No additional requirements

7.2.8 Responsibilities of the Office of Georgia Attorney General

No additional requirements

7.3 Reserved

7.4 Fencing

7.4.1 Reserved

7.4.2 Property Fencing

No additional requirements

7.5 Access to the Work

Following NTP 1, the DB Team shall be afforded access to all Property acquired by GDOT at that point in time.

8 GEOTECHNICAL

8.1 General Requirements

No additional requirements

8.2 Design Requirements

8.2.1 Subsurface Geotechnical Investigation by DB Team

Supplement the following to Section 8.2.1 of Volume 3

The DB Team shall conduct Bridge Foundation Investigations (BFI) at each bridge location for this project. The DB Team shall conduct Wall Foundation Investigations (WFI) for proposed non-standard walls. The DB Team may accept and use the boring logs provided at each bridge for this project; however, the boring logs are only provided as a RID and GDOT accepts no liability for the accuracy of the boring logs.

If the DB Team chooses to use the AASHTO Standard Specifications for Highway Bridges, 17th Edition, 2002 for the design of the bridges and walls, the Bridge Foundation Investigations (BFI) and Wall Foundation Investigations (WFI) are not required to adhere to Load and Resistance Factor Design (LRFD) specifications.

Spread footings in stream buffers are allowed if no other less impactful options are available.

8.2.2 Dynamic Pile Testing

No additional requirements

8.2.3 Pavement Design

No additional requirements

8.3 Construction

No additional requirements

8.4 Deliverables

No additional requirements

9 SURVEYING AND MAPPING

9.1 General Requirements

Supplement the following to Section 9.1 of Volume 3

The DB Team may accept and use the survey database provided at each bridge location for this project.

9.2 Administrative Requirements

No additional requirements

9.2.1 Property Owner Notification

No additional requirements

9.3 Design Requirements

No additional requirements

9.3.1 Units

No additional requirements

9.3.2 Survey Control Requirements

No additional requirements

9.3.3 Conventional Method (Horizontal & Vertical)

No additional requirements

9.3.3.1 Horizontal Accuracy Requirements for Conventional Surveys

No additional requirements

9.3.3.2 Vertical Accuracy Requirements for Conventional Surveys

No additional requirements

9.3.4 Reserved

No additional requirements

9.3.5 Right of Way Survey

No additional requirements

9.3.5.1 Accuracy Standard

No additional requirements

9.3.6 Survey Records and Reports

No additional requirements

9.4 Construction Requirements

9.4.1 Units

No additional requirements

9.4.2 Construction Surveys

No additional requirements

9.5 Deliverables

9.5.1 Final ROW Surveying and Mapping

No additional requirements

9.5.2 ROW Monuments

No additional requirements

10 GRADING

10.1 General

No additional requirements

10.2 Preparation within Project Limits

No additional requirements

10.3 Slopes and Topsoil

No additional requirements

10.4 Deliverables

No additional requirements

10.4.1 Released for Construction Documents

No additional requirements

11 ROADWAYS

11.1 General Requirements

No additional requirements

11.2 Design Requirements

Supplement the following to Section 11.2 of Volume 3

Design Criteria Order of Precedence

The following requirements shall be adhered to for the design of the Project. The plans provided in the RIDs are provided for reference only and may contain or conform to some but not all of the design requirements herein. In the event of any conflict, ambiguity or inconsistency, among the following design criteria, the order of precedence, from highest to lowest, one being higher than two, shall be as follows:

1. Allowable design exception(s)/variance(s) as set forth in Section 11.2.3
2. Select Design Criteria as set forth in Volume 2, Section 11.2
3. Volume 2 and Volume 2 Attachments (Technical Provisions)
4. Volume 3 and Volume 3 Attachments (Programmatic Technical Provisions)
5. Volume 3 Manuals (Technical Documents)

11.2.1 Typical Section(s) and Pavement Design

Table 11-1: Typical Section(s) for Roadway Design

Roadway	Number of Lane(s)	Lane Width(s)	Outside Paved Shoulder Width(s)	Outside Unpaved Shoulder Width(s)
All	Match Existing	10’ minimum or match existing; whichever is greater	2’ minimum or match existing; whichever is greater	2’ beyond the outside paved shoulder

Table 11-2: Pavement Design(s)

Material	Spread Rate
RECYCLED ASPH CONC 9.5mm SUPERPAVE, TYPE II, GP 2 ONLY, INCL BITUM MATL & H LIME*	**LBS/SY
RECYCLED ASPH CONC 19mm SUPERPAVE, GP 1 OR 2, INCL BITUM MATL & H LIME	**LBS/SY

RECYCLED ASPH CONC 25mm SUPERPAVE, GP 1 OR 2, INCL BITUM MATL & H LIME	**LBS/SY
GRADED AGGREGATE BASE*	**LBS/SY

*Place 9.5 mm SP, Type I when ADT < 2,000 vpd per Attachment 11-1.

** Spread rates and the amount of graded aggregate base to be designed by the Engineer of Record in accordance with Attachment 11-1 per site.

Table 11-3: Driveway Pavement Design(s)

Material	Spread Rate
Residential Asphaltic Concrete Driveways	
RECYCLED ASPH CONC 9.5 mm SUPERPAVE, TYPE II, GP 2 ONLY, INCL BITUM MATL & H LIME*	**LBS/SY
GRADED AGGREGATE BASE COURSE – 6 INCH DEPTH INCL MATL	N/A
Commercial Asphaltic Concrete Driveways	
RECYCLED ASPH CONC 9.5 mm SUPERPAVE, TYPE II, GP 2 ONLY, INCL BITUM MATL & H LIME	**LBS/SY
RECYCLED ASPH CONC 19 mm SUPERPAVE, GP 1 OR 2, INCL BITUM MATL & H LIME	**LBS/SY
GRADED AGGREGATE BASE COURSE – 6 INCH DEPTH INCL MATL	N/A
Residential Concrete Driveways	
PORTLAND CEMENT CONCRETE – 6”	N/A
GRADED AGGREGATE BASE – 6” DEPTH	N/A
Commercial Concrete Driveways	
PORTLAND CEMENT CONCRETE – 8”	N/A
GRADED AGGREGATE BASE – 10” DEPTH	N/A

*For the surface layer, the Driveway Pavement Design material shall match the Roadway Pavement Design material.

** Spread rates to match the pavement design as per Table 11-2 per site.

11.2.2 Additional Roadway Design Requirements

The DB Team shall place full depth pavement a minimum of 50 linear feet from the approach slab limits on each side of the bridge. Beyond this requirement, pavement

shall be designed by the Engineer of Record for alignment tie-ins. Typical section and pavement design shall adhere to the requirements listed in Section 11.2.1. In no case shall the existing pavement width be narrowed. Additional roadway requirements can be found in Attachment 1-1. All approach slabs shall be reinforced concrete with asphalt inlay, 30 foot in length and adhering to GDOT's Standards.

All guardrail within the project limits including guardrail not impacted by construction shall be replaced and upgraded to current GDOT standards. Guardrail located outside of the construction limits does not warrant replacement.

11.2.3 Allowable Design Exception(s)/Variance(s)

No additional Design Exceptions or Variances proposed by the DB Team shall be allowed. Any existing conditions that do not meet the requirements of the AASHTO "10 Controlling Criteria" and/or the GDOT Standard Design Criteria, as denoted in the GDOT Design Policy Manual, must be presented to GDOT and shall be upgraded to meet the required criteria or mandatory practice with the proposed design of the Project.

DB Team is permitted to retain Design Deviations that are present within the existing conditions. Any existing Design Deviations that are identified within the project limits and that are intended to be retained in the proposed design must be presented to GDOT.

Refer to Attachment 1-1 and the RIDs for the allowable Design Exception(s)/Variance(s) for the Project permitted for each site.

11.2.4 Visual Quality

No additional requirements

11.2.5 Permanent Lighting

No additional requirements

11.2.6 Related Transportation Facilities

No additional requirements

11.3 Deliverables

No additional requirements

12 DRAINAGE

12.1 General Requirements

No additional requirements

12.2 Administrative Requirements

12.2.1 Data Collection

No additional requirements

12.2.2 Coordination with Other Agencies

No additional requirements

12.3 Design Requirements

No additional requirements

12.3.1 Surface Hydrology

No additional requirements

12.3.1.1 Design Frequencies

No additional requirements

12.3.1.2 Hydrologic Analysis

No additional requirements

12.3.2 Storm Sewer Systems

No additional requirements

12.3.2.1 Pipes

No additional requirements

12.3.2.2 Municipal Separate Storm Sewer System (MS4)

No additional requirements

12.3.2.3 Gutter Spread/Ponding

No additional requirements

12.3.3 Hydraulic Structures (Culverts/Bridges)

Supplement the following to Section 12.3.3 of Volume 3

The DB Team may accept and use the HEC-RAS model provided at each bridge location in the RIDs for this project. However, the document is only provided as a RID and GDOT accepts no liability for the accuracy of the report. If the DB Team chooses to accept the HEC-RAS model provided as a RID, the Engineer of Record shall provide GDOT with a letter agreeing to the conditions of this section.

12.3.3.1 Method Used to Estimate Flows

No additional requirements

12.3.3.2 Design Frequency

No additional requirements

12.3.3.3 Hydraulic Analysis

No additional requirements

12.3.3.4 Riverine Bridge/Bridge Culvert Design

No additional requirements

12.3.3.5 Bridge Deck Drainage

No additional requirements

12.3.3.6 Drainage Report for Major Stream Crossings

No additional requirements

12.4 Construction Requirements

No additional requirements

12.5 Deliverables

No additional requirements

13 STRUCTURES

13.1 General Requirements

No additional requirements

13.2 Design Requirements

13.2.1 Design Parameters

Supplement the following to Section 13.2.1 of Volume 3

Bridges may be designed in accordance with the AASHTO Standard Specifications for Highway Bridges, 17th Edition, 2002 and are not required to adhere to LRFD specifications.

Retaining walls may be designed in accordance with the AASHTO Design Standard Specifications for Highway Bridges, 17th Edition, 2002 and are not required to adhere to LRFD specifications.

No portion of the existing bridge shall be used in the new bridge construction.

Neither culverts nor bottomless culverts shall be allowed at any bridge location.

Endrolls at bridge abutments shall utilize a maximum 2:1 slope normal to the end bent.

13.2.2 Bridge Decks and Superstructures

Supplement the following to Section 13.2.2 of Volume 3

Cored slabs and box beams shall not be skewed.

Superelevation transitions shall not be allowed on bridges, unless noted in Attachment 1-1.

The location of the low-point of a vertical curve on a bridge or approach slab shall not be allowed, unless noted in Attachment 1-1.

Unpainted weathering steel may be used. If unpainted weathering steel is used, paint beam ends at expansion joints and ends of bridge a distance of 1.5 times the beam depth.

Maximum girder spacing for plate girder bridges shall be 10’-6”.

The paving rest shall be twelve (12) inches wide.

Groove the entire length of the bridge transversely as per sub section 500.3.05.T.9.C of the Georgia DOT specifications.

13.2.3 Bridge/ Retaining Wall Foundations

Supplement the following to Section 13.2.3 of Volume 3

Concrete pile encasements shall be used for steel h-piles located within limits of design flood.

Geosynthetic Reinforced Soils (GRS) Integrated Bridge System (IBS) technology may be utilized in the project. If GRS-IBS is used, the foundation shall be at or below the scour line as determined in the hydraulic and hydrologic study. The GRS-IBS abutment shall not be overtopped during the 100 year flood. Countermeasures shall be designed and provided. A minimum of 24" Type I rip rap on the endroll and apron shall be provided.

13.2.4 Bridge Railing and Barriers

No additional requirements

13.2.5 Retaining Walls

No additional requirements

13.2.6 Aesthetics

No additional requirements

13.2.7 Drainage Structures

No additional requirements

13.2.8 Sign, Illumination, and Traffic Signal Supports

No additional requirements

13.2.9 Widening/Modification of Existing Structure

No additional requirements

13.2.10 Toll Gantry Structures

No additional requirements

13.3 Construction Requirements

Supplement the following to Section 13.3 of Volume 3

All welding on GDOT projects shall be performed by certified welders that have in their possession a current welding certification card issued by the Office of Materials and Testing. Use only E70XX (excluding E7014 and E7024) low hydrogen electrodes for manual shield metal arc welding.

13.3.1 Concrete Finishes

No additional requirements

13.3.2 Structure Metals

No additional requirements

13.4 Final Bridge Inspection Prior to Service Commencement

No additional requirements

13.5 Deliverables

No additional requirements

14 RESERVED

15 RESERVED

16 SIGNING, PAVEMENT MARKING, SIGNALIZATION

16.1 General Requirements

No additional requirements

16.2 Administrative Requirements

16.2.1 Meetings

No additional requirements

16.3 Design Requirements

16.3.1 Final Plans

No additional requirements

16.3.2 Permanent Signing and Delineation

Supplement the following to Section 16.3.2 of Volume 3

New W8-13 signs shall be required in advance of any bridge. Signs indicating the waterway the bridge crosses shall be required if the waterway is on the state map.

All existing signs on the approach or at the bridge shall be reviewed to determine if they shall be replaced or removed. Signs no longer applicable shall be removed including but not limited to weight restriction signs or narrow bridge signs, even if outside of the proposed construction limits. All other existing signs on the approach or at the bridge shall be replaced.

16.3.3 Project Signs – Outside the Existing and Proposed ROW

No additional requirements

16.3.4 Reserved

16.3.5 Specific Service Signs

No additional requirements

16.3.6 Sign Support Structures

No additional requirements

16.3.7 Permanent Pavement Marking

Supplement the following to Section 16.3.7 of Volume 3

Contrast pavement marking shall be used on bridges and all other concrete surfaces.

16.3.8 Permanent Signalization

No additional requirements

16.3.8.1 Traffic Signal Requirements

No additional requirements

16.3.8.2 Traffic Signal Timing Plans

No additional requirements

16.3.8.3 Traffic Signal Permit

No additional requirements

16.3.8.4 Traffic Signal Support Structures

No additional requirements

16.4 Construction Requirements

16.4.1 Permanent Signing and Delineation

No additional requirements

16.4.2 Permanent Pavement Marking

No additional requirements

16.4.3 Permanent Signalization

No additional requirements

16.5 Deliverables

16.5.1 Permanent Signing and Delineation

No additional requirements

16.5.2 Permanent Pavement Marking

No additional requirements

16.5.3 Permanent Signalization

No additional requirements

17 RESERVED

18 TRAFFIC CONTROL

18.1 General Requirements

No additional requirements

18.2 Administrative Requirements

18.2.1 Transportation Management Plan

No additional requirements

18.3 Design Requirements

18.3.1 Traffic Control Plans

No additional requirements

18.3.1.1 Roadway Guidelines

No additional requirements

18.3.1.1.1 *Design Parameters for Traffic Control*

No additional requirements

18.3.1.1.2 *Allowable Shoulder/Lane/Roadway Closures and Traffic Stage Changes*

Supplement Lane and Shoulder Closure During Design-Build Period Section of Volume 3 with the following:

1. Roads within project limits

   A single lane closure may be permitted to perform construction activities which will be subject to acceptance by GDOT.

2. No other cross streets will be allowed to be closed unless approved by GDOT or the Governmental Entity having jurisdiction of the cross street. The DB Team shall coordinate with each Local Government Agency having jurisdiction to determine acceptable times for closure to occur.

The full roadway within the project limits can be closed upon completion of all applicable environmental commitments and issuance of NTP 3 for construction activities. Partial or full closure of the roadway shall not occur prior to these activities. The DB Team shall furnish two (2) changeable message signs to be placed along the roadway to notify the public thirty (30) days prior to closing the roadway. Final placement of the changeable message signs will be subject to acceptance by GDOT. The DB Team shall provide

written notification sixty (60) days in advance of the closure to the following applicable county offices:

- County Commissioner's Office;
- County Sheriff's Office;
- County Board of Education Superintendent; and
- County EMS.

The location of the full roadway closure on the roadway shall not hinder the movement of traffic in and out of the surrounding businesses, residential, or commercial properties and any and all other driveways within the project limits. The location of the full roadway closure on the roadway shall provide enough distance for a school bus to turn around using a 3-point turn from the nearest driveway. The final location and limits of the full roadway closure will be subject to acceptance by GDOT.

Refer to Volume 1 Exhibit 9 for maximum duration of roadway closure (Allowable number of Calendar days) at each location. Only one roadway closure allowed per location. Opening of the roadway shall constitute that the DB Team has constructed and installed all final pavement, guardrail, signage, and striping on the roadway and bridge complete.

The road closures and detours will be exempt from Holiday Restrictions.

18.4 Construction Requirements

18.4.1 DB Team Responsibility

No additional requirements

18.4.2 Access

No additional requirements

18.4.3 Detours

Supplement the following to Section 18.4.3 of Volume 3

All sites shall utilize off site detours. The off-site detours to be used are included in Attachment 18-1. A Detour Report and Notice of Detour Approval shall be required for all project sites. If for any reason DB Team needs to change a detour route, a new detour route must be submitted to GDOT thirty (30) days before implementation. DB Team shall coordinate with GDOT, adjacent Governmental Entities and other third parties as appropriate to the detour.

19 MAINTENANCE DURING THE DESIGN-BUILD PERIOD

19.1 General Requirements

19.1.1 Reserved

19.1.2 GDOT Obligation to Repair

No additional requirements

19.2 Construction Maintenance Limits Plan

No additional requirements

20 RESERVED

21 RESERVED

22 RESERVED

23 SUBMITTALS

23.1 General

No additional requirement

23.1.1 Detailed Estimate of Quantities

No additional requirement

23.2 Design Submittals and Progress of Design Work

Supplement the following to Section 23.2 of Volume 3

The DB Team shall provide Project Submittals detailed in Table 23-1: Master Submittal List below. Each required Submittal shall be delivered to GDOT in conformance of the review times provided below. The times provided are specifically for the review period required for GDOT to comment and GDOT to subsequently accept if all requirements of the DB Documents are met. Accuracy, completeness, and time spent to address GDOT comments are the responsibility of the DB Team. Not all Submittals listed in Table 23-1 may be required for the Project and some Submittals may be combined into a single Submittal such as the Management Plans; DB Team shall coordinate with GDOT in determining if Submittals may be omitted or combined.

ABBREVIATIONS FOR TABLE

ASC	Point File for Survey Data
AR	As Required
DTM	Digital Terrain Model
FS	Full-size paper – meets GDOT Plan Presentation Guide
HC	Hard Copy – 8 ½ x 11 unless otherwise noted
HS	Half-size paper – meets GDOT Plan Presentation Guide
MP	Microsoft Project
MS	MicroStation File – Electronic
NA	Not Applicable
NTP	Notice to Proceed
PAS	Per Approved Schedule
PDF	Adobe PDF – One complete file and individual plan sheet files meets GDOT Electronic Plans Process

Table 23-1: Master Submittal List

Section	Volume	Submittal Item	Format	Quantity	Delivery Date	Review Period* (Days)
Volume 1						
EXB 1	1	Schedule of Values	AR, PDF	1	Within 15 Days from NTP 1	14
Volume 2						
11	***2***	***Design Exceptions or Design Variances***	***AR, PDF***	***1***	***Within 60 Days from NTP 1***	***60***
Volume 3						
2	3	Interim (optional) Design Submittal(s)	AR, PDF	1	Per approved Submittal Schedule	14
23	3	Design and Construction Quality Records	AR, PDF	1	Always auditable; Submit at project completion	NA
2	3	Project Design Data Book (Final Plans Submittal)	AR, HC, PDF	1, 1	Include with Final Plans Submittal	45
2	3	Final Project Design Data Book	AR, HC, PDF	3, 1	Include with Record Drawings (As-Built Plans) Submittal	14
23	3	Design Review meeting minutes	AR, PDF	1	within 7 days of Design Review meetings	7
Management Plans						
2	3	Project Management Plan and any updates	AR, PDF	1	See Section 2 of Volume 3	60
2	3	Design Quality Management Plan	AR, PDF	1	Within 30 Days from NTP 1	30
2	3	Construction Quality Management Plan	AR, PDF	1	See Section 2 of Volume 3	30
2	3	Safety Plan	AR, PDF	1	See Section 2 of Volume 3	30
2	3	Quality Management Plan	AR, PDF	1	Within 30 Days from NTP 1	30
2	3	Monthly Status Reports (includes cost, schedule, quality, status, etc.)	AR, PDF	1	Monthly	NA
2	3	DB Team Internal Quality Audits	AR, PDF	1	As needed	NA
2	3	DB Team Non-Conformance Reports	AR, PDF	1	As needed	NA
3	3	DB Team Input for Public Information and Communications Plan (PICP)	AR, PDF	1	within 10 Days of Receipt from GDOT	14

Section	Volume	Submittal Item	Format	Quantity	Delivery Date	Review Period* (Days)
3	3	DB Team Reviews of Public Information Materials	AR, PDF	1	As needed	14
Schedules						
2	3	Project Baseline Schedule	AR, P6, PDF	1, 3, 1, 1	Within 90 Days from NTP 1	30
2	3	Revisions to Project Baseline Schedule	AR, P6, PDF	1, 3, 1, 1	As required	30
2	3	Monthly Schedule Update	AR, P6, PDF	1, 1, 1	Monthly	7
Existing Infrastructure - N/A						
Environmental						
4	3	GDOT - Led Governmental Approvals	AR, PDF	1	As needed, per the approved Submittal Schedule	Table 4-1
4	3	Section 404, CWA, permit	AR, PDF	1	**	Table 4-1
4	3	Water Quality Certification (concurrently with the USACE Nationwide Permit)	AR, PDF	1	**	Table 4-1
4	3	Applications to Regulatory Agencies, Application revisions, supplements	AR, PDF	1	As needed	***
Utilities						
6	3	Supplemental verification of Overhead/Subsurface Utility Engineering (SUE) Investigations - QL-B	AR, MS PDF	1	NTP (1) + 45 Calendar Days (Or as Determined by State Subsurface Utilities Engineer at the SUE Kick-Off meeting which is concurrent with the first utility coordination meeting)	NA
6	3	SUE Utility Impact Analysis "UIA"	AR, PDF	1	NTP 1 + 120 Calendar Days (Or as Determined by State Subsurface Utilities Engineer at the SUE Kick-Off meeting which is concurrent with the first utility coordination meeting)	NA
6	3	Overhead/Subsurface Utility Engineering (SUE) Investigations - QL-A	AR,MS,PDF	Plans: 2 for each Utility Owner +3 for Dept.	UIA + 45 Calendar Days	NA

Section	Volume	Submittal Item	Format	Quantity	Delivery Date	Review Period* (Days)
				and MS files		
6	3	Overhead/Subsurface Utilities Engineering (SUE) Information to Utilities for Review (URPN Letter 1a - SUE Submit to Utility Companies Revise)	FS,HS,PDF, MS	Plans: 2 for each Utility Owner +3 for Dept. and MS files	NTP 1 + 5 Calendar Days (Or as Determined by District Utilities Engineer at SUE Kick-Off meeting)	5 days for Dept. + 30 days for each Utility Owner
6	3	Relocated Utility Plans (URPN Letter 2 - 2nd Submission Letter (Existing and Proposed))	FS,HS,PDF, MS	3, 1	Concurrently w/ Accepted SUE Verification by Utility Owner	5 days for Dept. + 90 days for each Utility Owner
6	3	Utility Retention Request	AR, PDF	1	As needed	14
6	3	Preliminary Utility Status Report	HC, PDF	Agreements: 3 hard copy, 1 electronic pdf Plans: 2 for each Utility Owner + 3 for Dept. and MS files	NTP 1 + 180 Days Concurrently w/ Accepted Relocated Utility Plans and (URPN Letter 6 - Notice to Proceed with Permit)	10- days + 5 days

Section	Volume	Submittal Item	Format	Quantity	Delivery Date	Review Period* (Days)
6	3	Utility Plans/Agreements (Utility NTP Letter)	Plans/ Agreements HS,PDF,MS	1, 3, 1, 1		Agreements: 30 days for Dept. + 60 days for each Utility Owner Plans: 30 days
6	3	Utility A/O Claims of Real Property Interests	AR, PDF	1	See Section 6 of Volume 3	14
6	3	Utility Adjustment Field Modification Procedure	AR, PDF	1	Prior to submittal of any Utility Work Plan	14
6	3	Utility Emergency Response Plan	PDF	1	30 Days Prior to NTP 3	14
6	3	Utility As-Built Plans	FS, HS, PDF, MS	1	Concurrently w/Accepted Construction As-Built Plans	30 days Department 30 days for Utility Owners
6	3	All Utility Meeting Minutes	AR, PDF	1	Within 7 days of Utility Meeting	7
Right of Way – N/A						
Geotechnical						
23	3	WFI (Wall Foundation Investigation)	AR, PDF	1	**	30
23	3	BFI (Bridge Foundation Investigation)	AR, PDF	1	**	30
8	2	Acceptance Letter for Borings	AR, PDF	1	Per the approved Submittal Schedule	NA
Survey – N/A						
Grading/Roadway – N/A						

Section	Volume	Submittal Item	Format	Quantity	Delivery Date	Review Period* (Days)
Lighting/Electric/Power – N/A						
Drainage						
12	3	Annual Outfall Inspection Report	AR, PDF	1	Within 30 days of Annual DB Team Inspection	30
Structures/Bridges						
13	3	Preliminary Bridge Layouts (shall be submitted together with the Hydraulic and Hydrology Report) No more than two (2) Preliminary Bridge Layouts and Hydraulic and Hydrology Reports shall be submitted in the same thirty (30) day period.	AR, FS, HS, PDF	2, 6, 1	**	30
13	3	Preliminary Wall Layouts	AR, FS, HS, PDF	2, 6, 1	**	21
13	***3***	***Final Bridge Plans*** (Final Bridge Plan acceptance is contingent on the acceptance of the BFI) No more than two (2) Final Bridge Plans shall be submitted in the same thirty (30) day period.	*AR, FS, HS, PDF*	*2, 6, 1*	****	***30***
13	***3***	***Final Wall Plans*** (Final Wall Plan acceptance is contingent on the acceptance of the WFI)	*AR, FS, HS, PDF*	*2, 6, 1*	****	***30***
Rail – N/A						
Signing, Pavement Marking and Signalization n/a						
ITS, Network, Toll and Gates n/a						
Traffic Control						
18	3	Traffic Control Plans (each Phase)	AR, PDF	1	Per the approved Submittal Schedule	14
Maintenance During the Design-Build Period n/a						
Tolling n/a						
Additional Submittals						
23	**3**	**Schematic Plan of the Project**	AR, FS, HS, PDF	2, 6, 1	****	**30**

Section	Volume	Submittal Item	Format	Quantity	Delivery Date	Review Period* (Days)
23	**3**	**Interim Design**	AR, FS, HS, PDF	6, 10, 1	**	**30**
23	3	Field Plan Review Plans (90%) per Bridge location	AR, HS, PDF	5, 1	**	45
23	3	Back-check set of Released for Construction Plans (RFC) per Bridge location (complete set)	AR, HS, PDF	1, 1	**	14
23	3	Accepted Released for Construction Plans (RFC) per Bridge location (complete set)	AR, FS, HS, PDF	3,15,1	**	NA
23	3	Notice of Intent (NOI) with final/signed Erosion Control Plans	AR, PDF	1	**	14
23	3	Shop Drawings	AR, PDF	1	**	14
23	3	Temporary Works - where public safety may be affected	AR, PDF	1	**	14
23	3	Plan Revisions During Construction	AR, PDF	1	**	14
23	3	Record Drawings (As-Built Plans) per Construction Phase	AR, FS, HS, PDF	1, 1, 1	**	14
23	3	Hydraulic and Hydrology Report (shall be submitted together with the Bridge Preliminary Layout)	AR, PDF	1	**	30
23	3	Restoration/Mitigation	AR, PDF	1	**	14
23	3	Draft Design Specifications, Reports, Whitepapers,etc.	AR, PDF	1	**	14
23	3	Final Design Specifications, Reports, Whitepapers,etc.	AR, PDF	1	**	14
23	3	Site observation compliance report	AR, PDF	1	See Section 23 of Volume 3	14
All	All	Meeting Minutes	AR, PDF	1		14
N/A	N/A	Subcontracts	AR, PDF	1	In accordance with the Construction Manual	14

*Review period is the period required for the generation of comments or the review time to determine the sufficiency of the document and the state or status of the document per Section 23.3. Multiple review periods shall be planned for "Accepted by GDOT" status.

If a submittal is not listed the review time shall be 30 days.

** Based upon the accepted Baseline Schedule
*** Time of review will be based upon actual impact to project
**** See Technical Provisions

ABBREVIATIONS TABLE	
ASC	Point File for Survey Data
AR	As Required
DTM	Digital Terrain Model
FS	Full-size paper – meets GDOT Plan Presentation Guide
HC	Hard Copy – 8 ½ x 11 unless otherwise noted
HS	Half-size paper – meets GDOT Plan Presentation Guide
MP	Microsoft Project
MS	MicroStation File – Electronic
NTP	Notice to Proceed
PAS	Per Approved Schedule
PDF	Adobe PDF – One complete file and individual plan sheet files meets GDOT Electronic Plans Process

23.2.1 Construction Phasing and Additional Submittal Requirements

No additional requirement

23.3 Submittals Process

No additional requirement

23.4 Shop Drawings and Temporary Works Submittals

No additional requirement

23.4.1 General

No additional requirement

23.4.2 Work Items Requiring Shop Drawings

No additional requirement

23.4.3 Schedule of Submittals

No additional requirement

23.4.4 Style, Numbering, and Material of Submittals

No additional requirement

23.4.5 Submittals and Copies

No additional requirements

23.4.6 Processing of Shop Drawings

No additional requirements

23.4.7 Other Requirements for Shop Drawings for Bridges

No additional requirements

23.4.8 Modifications on Construction

No additional requirements

23.5 As-Built Plans

No additional requirements

Georgia Department of Transportation

Technical Provisions

For

Design-Build Agreement

P.I. No. 0015524

FY 17 Bridge Replacement Project

VOLUME 2 ATTACHMENTS

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Attachment 4-1 Special Provision 107.23H
Attachment 6-1 Utility MOUs
Attachment 6-2 Utility Insurance Requirements and Special Provisions
Attachment 11-1 Guidelines for Pavement Sections for Minor Projects – Addendum
Attachment 13-1 Structures Special Provisions
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Georgia Department of Transportation

Technical Provisions

For

Design-Build Agreement

P.I. No. 0015524

FY 17 Bridge Replacement Project

Attachment 1-1

ADDITIONAL LOCATION REQUIREMENTS

Additional Location Requirements

BATCH 2

Each of the following bridges shall be replaced:

Bridge Serial Number	Feature Carried	Feature Intersected	County Name	GDOT District
091-0032-0	Milan-Chauncey Road	Sugar Creek	Dodge	2
093-5006-0	Weeks Road	Lilly Branch	Dooly	3
071-0050-0	Doerun Norman Park Road	Okapilco Creek	Colquitt	4
239-0009-0	Lower Lumpkin Road	Hodchodkee Creek	Quitman	4
101-5003-0	Toms Creek Road	Toms Creek	Echols	4
275-5003-0	Reichertville Road	McKeever Slough Creek	Thomas	4

Bridge Details

At the following bridge locations:

- 091-0032-0 (Dodge County)
    - No bents shall be located within 15’-0” of the thalweg and no more than two (2) bents shall be placed within the limits of the stream.
- 093-5006-0 (Dooly County)
    - No bents shall be located within 15’-0” of the thalweg and no more than two (2) bents shall be placed within the limits of the stream. Skew bents to align with flood flow.
- 071-0050-0 (Colquitt County)
    - Place bents to avoid existing spread footings. No more than two (2) bents shall be placed within the limits of the stream. Skew bents to align with flood flow.
- 239-0009-0 (Quitman County)
    - No bents shall be located within 10’-0” of the thalweg(s) or 5’-0” from the stream banks. No more than two (2) bents shall be placed within the limits of the stream.
- 101-5003-0 (Echols County)
    - No bent shall be located within 10’-0” of the thalweg(s). No more than two (2) bents shall be placed within the limits of the stream.

- 275-5003-0 (Thomas County)
    - No bents shall be placed within the limits of the stream or 10’-0” from the stream banks.

Environmental Details

Seasonal Restriction Table

Bridge Serial Number	Non-Seasonal Enhanced Erosion Control Measures Required	Potential Seasonal Restriction Range* for In-Stream Work**	Potential Seasonal Restriction Range for Bridge Demolition	Potential Seasonal Restriction Range for Clearing of Woody Vegetation	Deck Drains Permitted*****
091-0032-0	No	NA	April 1 – August 31	NA	No
093-5006-0	Yes	NA	April 1 – August 31	NA	No
071-0050-0	Yes	NA	April 1 – August 31	NA	No
239-0009-0	Yes	NA	April 1 – August 31	NA	No
101-5003-0	Yes	NA	April 1 – August 31	NA	No
275-5003-0	No	NA	April 1 – August 31	NA	No

* These seasonal restriction ranges represent the current status of regulatory coordination. With enhanced erosion control measures and adequate implementation of aquatic resource impact avoidance/minimization and/or additional agency coordination, these seasonal restrictions may be shortened.
** In stream work is defined as any construction/demolition/de-watering/or access that would occur within the stream.
*** Bridge survey for roosting bats required within 14 days before demolition (if no signs of bat roosting were observed during initial ecology survey). If no bats are present during the pre-demolition survey, seasonal restriction would end on August 31 (if exclusionary devices for migratory birds are in place, demolition can commence).
**** If exclusionary devices (e.g., netting) for migratory birds are placed prior to March 1 or after August 31, no seasonal restriction would apply unless roosting non-listed bat species are observed on the bridge during ecology field surveys. Seasonal restrictions for bridge demolition would apply if roosting non-listed bat species are present (coordination with Georgia Department of Natural Resources Nongame Conservation Section required to determine timeframe for demolition restriction).
*****If use of deck drains on bridge structure is permitted per the table above, deck drains must not be directly above designated Waters of the US and associated vegetative buffers.

Roadway Details

The Engineer of Record (EOR) shall use the additional design criteria for each location as shown in the attached tables for the full length of the construction limits. The following are additional requirements for the roadway design.

- 091-0032-0 (Dodge County)
  Provide “no passing” signs and pavement markings for delineation at bridge approaches.

- 071-0050-0 (Colquitt County)
  Provide “no passing” signs and pavement markings for delineation at bridge approaches.

- 101-5003-0 (Echols County)
  Provide “no passing” signs and pavement markings for delineation at bridge approaches.

- 275-5003-0 (Thomas County)
  Provide “no passing” signs and pavement markings for delineation at bridge approaches.

The following are allowable Design Exception(s)/Variance(s)/Deviation(s) for the Project:

- 091-0032-0 (Dodge County)
  Design Deviation for Cross Slope - The proposed 2.5% bridge cross slope that does not meet 2011 AASHTO guidelines may be built per the design deviation.

  Design Variance for Slopes behind Guardrail Anchorage – The proposed 3:1 slopes behind the guardrail anchorage may be built per the design variance.

- 093-5006-0 (Dooly County)
  No Design Exception(s)/Variance(s)/Deviations(s) anticipated.

- 071-0050-0 (Colquitt County)
  Design Deviation for Cross Slope - The proposed 2.5% bridge cross slope that does not meet 2011 AASHTO guidelines may be built per the design deviation.

- 239-0009-0 (Quitman County)
  Design Variance for Slopes behind Guardrail Anchorage – The proposed 3.5:1 slopes behind the guardrail anchorage may be built per the design variance.

- 101-5003-0 (Echols County)
  Design Deviation for Cross Slope - The proposed 2.5% bridge cross slope that does not meet 2011 AASHTO guidelines may be built per the design deviation.

  Design Variance for Slopes behind Guardrail Anchorage – The proposed 3.5:1 slopes behind the guardrail anchorage may be built per the design variance.

- 275-5003-0 (Thomas County)
  Design Deviation for Cross Slope - The proposed 2.5% bridge cross slope that does not meet 2011 AASHTO guidelines may be built per the design deviation.

Design Criteria by Functional Classification

Design Element	Bridge 2DOD - #091-0032-0 Milan-Chauncey Road over Sugar Creek, Dodge County			
	Standard Criteria	**Existing Condition**	**Proposed Condition**	**Comments**
Roadway Classification	Major Collector (Rural)			
Basic No. of Lanes	2			
ADT (Year)	1130 (2012), 1695 (2032)			
Design Vehicle	WB-50			
Design Speed (MPH)	50, but using 55	N/A	55	Using rural, level terrain
Posted Speed (MPH, if observed in field)	N/A	55	55	
Maximum Profile Grade (%) [2]	6%	1%	2%	Using rural, level terrain
Lane Width	11'	10'	11'	
Outside Shoulder Width - Paved (Overall)	5' (n/a') - low ADT[1] 4.0' on bridge	0' (5')	2' (4')	
Minimum offset to barrier	4' min / 10' des. 4.0' on bridge	2'	4'	
Typical Roadway Cross Slope	1.5% to 2%	2%	2% 2.5% on bridge	2.5% bridge cross slope proposed - Design Deviation recorded to file
Maximum Horizontal Alignment Deflection without use of a Curve	20' 00"	unknown	N/A	
E max	8%	unknown	8%	
Minimum Radii of Horizontal Curve	960'	1960'	1960'	
Stopping Sight Distance	495'	exceeds 495'	exceeds 495'	
Intersection Sight Distance	610'	N/A	N/A	
Driveway Sight Distance	610'	N/A	N/A	
Gutter Spread on Bridge Deck	Retain spread on shoulder	unknown	3.668' at 2.5% cross slope with no scuppers. 4.0' spread available.	
Maximum change in grade without vertical curve (%)	0.50%	unknown	0.35%	
Minimum K Value for Crest Vertical Curve	114	unknown	119	
Minimum K Value for Sag Vertical Curve	115	unknown	118	

Notes:
1 This value can be reduced to achieve a minimum roadway width (traveled way width + shoulder width) of 30 ft per AASHTO Table 5-5

2 For short sections less than 500 feet and for one-way downgrades, the maximum grade may be 1% steeper than the values appearing in Table 4.3.2 of the GDOT Design Manual.

Design Criteria by Functional Classification

Design Element	Bridge 2DOO - #093-5006-0 Weeks Road over Lilly Branch, Dooly County Standard Criteria	Existing Condition	Proposed Condition	Comments
Roadway Classification	Minor Collector (Rural)			
Basic No. of Lanes	2			
ADT (Year)	735 (2032)			
Design Vehicle	WB-50			
Design Speed (MPH)	40, but using 55 due to posted speed	55	55	using rolling, rural terrain
Posted Speed (MPH, if observed in field)	N/A	not observed	N/A	
Maximum Profile Grade (%) [2]	7.00%	2.54%	2.56%	using rolling, rural terrain
Lane Width	11	10-11	11	
Outside Shoulder Width - Paved (Overall)	n/a' (5') - low ADT[1]	0' (2')	0' (4'), 5' on bridge	
Minimum offset to barrier	4' min / 10' des.	2	4	
Typical Roadway Cross Slope	1.5% to 2%	2%	2%	
Maximum Horizontal Alignment Deflection without use of a Curve	20' 00"	N/A	N/A	
E max	8%	2.0%	2.0%	
Minimum Radii of Horizontal Curve	960	N/A	N/A	
Stopping Sight Distance	495	Exceeds 495'	Exceeds 495'	
Intersection Sight Distance	610	N/A	N/A	
Driveway Sight Distance	610	N/A	N/A	
Gutter Spread on Bridge Deck	10' (min.) of travel lane must be retained outside of spread	unknown	4.97' at 2% cross slope	
Maximum change in grade without vertical curve (%)	0.50%	unknown	0.10%	
Minimum K Value for Crest Vertical Curve	114	N/A	N/A	
Minimum K Value for Sag Vertical Curve	115	> 115	117	

Notes 1 This value can be reduce providing that traveled way width + paved shoulder width meets or exceeds total roadway width per AASHTO Table 6-5

2 For short sections less than 500 feet and for one-way downgrades, the maximum grade may be 1% steeper than the values appearing in Table 4.3.2 of the GDOT Design Manual.

Design Criteria by Functional Classification

Design Element	Bridge 2COL - #071-0050-0 Doerun Norman Park Road over Okapilco Creek, Colquitt County			
	Standard Criteria	**Existing Condition**	**Proposed Condition**	**Comments**
Roadway Classification	Major Collector (Rural)			
Basic No. of Lanes	2			
ADT (Year)	490 (2011), 735 (2031)			
Design Vehicle	WB-50			
Design Speed (MPH)	50, but using 55	N/A	55	Using rural, level terrain
Posted Speed (MPH, if observed in field)	N/A	55	55	
Maximum Profile Grade (%) [2]	6%	1%	1%	Using rural, level terrain
Lane Width	11'	10.5'	11'	
Outside Shoulder Width - Paved (Overall)	5' (n/a') - low ADT[1] 3.0' on bridge	0' (2')	2' (4')	
Minimum offset to barrier	4' min / 10' des. 3.0' on bridge	2'	4'	
Typical Roadway Cross Slope	1.5% to 2%	2%	2% 2.5% on bridge	2.5% bridge cross slope proposed - Design Deviation recorded to file
Maximum Horizontal Alignment Deflection without use of a Curve	20' 00"	N/A	N/A	
E max	8%	N/A	N/A	
Minimum Radii of Horizontal Curve	960'	N/A	N/A	
Stopping Sight Distance	495'	exceeds 495'	exceeds 495'	
Intersection Sight Distance	610'	N/A	N/A	
Driveway Sight Distance	610'	N/A	N/A	
Gutter Spread on Bridge Deck	Retain spread on shoulder	unknown	3.990' at 2.5% cross slope with no scuppers. 4.0' spread available.	
Maximum change in grade without vertical curve (%)	0.50%	unknown	0.10%	
Minimum K Value for Crest Vertical Curve	114	unknown	116	
Minimum K Value for Sag Vertical Curve	115	unknown	118	

Notes:
1 This value can be reduced to achieve a minimum roadway width (traveled way width + shoulder width) of 30 ft per AASHTO Table 5-5

2 For short sections less than 500 feet and for one-way downgrades, the maximum grade may be 1% steeper than the values appearing in Table 4.3.2 of the GDOT Design Manual.

Design Criteria by Functional Classification

Design Element	Bridge 2QUI #239-0009-0 Lower Lumpkin Road over Hodchodkee Creek, Quitman County			
	Standard Criteria	**Existing Condition**	**Proposed Condition**	**Comments**
Roadway Classification	Major Collector (Rural)			
Basic No. of Lanes	2			
ADT (Year)	210 (2012), 315 (2032)			
Design Vehicle	WB-50			
Design Speed (MPH)	40, but using 55	N/A	55	Using rural, level terrain
Posted Speed (MPH, if observed in field)	N/A	55	55	
Maximum Profile Grade (%) [2]	6%	1%	1%	Using rural, level terrain
Lane Width	11	10	11	
Outside Shoulder Width - Paved (Overall)	5' (n/a') - low ADT[1] 2.0' on bridge	0' (4')	2' (4') 5'-4½" bridge shld	
Minimum offset to barrier	4' min / 10' des. 2.0' on bridge	1'	4'	
Typical Roadway Cross Slope	1.5% to 2%	2%	2%	
Maximum Horizontal Alignment Deflection without use of a Curve	20' 00"	unknown	N/A	
E max	8%	unknown	8%	
Minimum Radii of Horizontal Curve	960'	6850	6850	
Stopping Sight Distance	495'	exceeds 495'	exceeds 495'	
Intersection Sight Distance	610'	N/A	N/A	
Driveway Sight Distance	610'	N/A	N/A	
Gutter Spread on Bridge Deck	Retain spread on shoulder	unknown	4.979' at 2.0% cross slope with no scuppers. 5' 4½" spread available.	
Maximum change in grade without vertical curve (%)	0.50%	unknown	N/A	
Minimum K Value for Crest Vertical Curve	114	N/A	127	
Minimum K Value for Sag Vertical Curve	115	unknown	117	

Notes:
1 This value can be reduced to achieve a minimum roadway width (traveled way width + shoulder width) of 30 ft per AASHTO Table 5-5

2 For short sections less than 500 feet and for one-way downgrades, the maximum grade may be 1% steeper than the values appearing in Table 4.3.2 of the GDOT Design Manual.

Design Criteria by Functional Classification

Design Element	Bridge 2ECH - #101-5003-0 Toms Creek Road over Toms Creek, Echols County			
	Standard Criteria	**Existing Condition**	**Proposed Condition**	**Comments**
Roadway Classification	Local Road (Rural)			
Basic No. of Lanes	2			
ADT (Year)	490 (2012), 735 (2032)			
Design Vehicle	WB-50			
Design Speed (MPH)	50, but using 55	N/A	55	Using rural, level terrain
Posted Speed (MPH, if observed in field)	N/A	55	55	
Maximum Profile Grade (%) [2]	6%	1%	1%	Using rural, level terrain
Lane Width	11	10	11	
Outside Shoulder Width - Paved (Overall)	5' (n/a') - low ADT[1] 3.0' on bridge	0' (2')	2' (4') 3'-10 ½" bridge shld	
Minimum offset to barrier	4' min / 10' des. 3.0' on bridge	2'	4'	
Typical Roadway Cross Slope	1.5% to 2%	2%	2% 2.5% on bridge	2.5% bridge cross slope proposed - Design Deviation recorded to file
Maximum Horizontal Alignment Deflection without use of a Curve	20' 00"	N/A	N/A	
E max	8%	N/A	N/A	
Minimum Radii of Horizontal Curve	960'	N/A	N/A	
Stopping Sight Distance	495'	exceeds 495'	exceeds 495'	
Intersection Sight Distance	610'	N/A	N/A	
Driveway Sight Distance	610'	N/A	N/A	
Gutter Spread on Bridge Deck	Retain spread on shoulder	unknown	3.874' at 2.5% cross slope. 3'-10.5" spread available.	
Maximum change in grade without vertical curve (%)	0.50%	unknown	0.50%	
Minimum K Value for Crest Vertical Curve	114	unknown	119	
Minimum K Value for Sag Vertical Curve	115	N/A	N/A	

Notes:

1 This value can be reduced to achieve a minimum roadway width (traveled way width + shoulder width) of 30 ft per AASHTO Table 5-5

2 For short sections less than 500 feet and for one-way downgrades, the maximum grade may be 1% steeper than the values appearing in Table 4.3.2 of the GDOT Design Manual.

Design Criteria by Functional Classification

Design Element	Bridge 2THO #275-5003-0 Reichertville Road over McKeever Slough Creek, Thomas County			
	Standard Criteria	**Existing Condition**	**Proposed Condition**	**Comments**
Roadway Classification	Minor Collector (Rural)			
Basic No. of Lanes	2			
ADT (Year)	280 (2011), 420 (2031)			
Design Vehicle	WB-50			
Design Speed (MPH)	50, but using 55	N/A	55	Using rural, level terrain
Posted Speed (MPH, if observed in field)	N/A	55	55	
Maximum Profile Grade (%) [2]	6%	1%	2%	Using rural, level terrain
Lane Width	11	10	11	
Outside Shoulder Width - Paved (Overall)	5' (n/a') - low ADT[1] 3.0' on bridge	0' (4')	2' (4') 3'-10 ½" bridge shld	
Minimum offset to barrier	4' min / 10' des. 3.0' on bridge	0.5'	4'	
Typical Roadway Cross Slope	1.5% to 2%	2%	2% 2.5% on bridge	2.5% bridge cross slope proposed - Design Deviation recorded to file
Maximum Horizontal Alignment Deflection without use of a Curve	20' 00"	unknown	8'13"	
E max	8%	N/A	N/A	
Minimum Radii of Horizontal Curve	960'	N/A	N/A	
Stopping Sight Distance	495'	exceeds 495'	exceeds 495'	
Intersection Sight Distance	610'	N/A	N/A	
Driveway Sight Distance	610'	N/A	N/A	
Gutter Spread on Bridge Deck	Retain spread on shoulder	unknown	3.875' at 2.5% cross slope with no scuppers. 3'-10.5" spread available.	
Maximum change in grade without vertical curve (%)	0.50%	unknown	0.50%	
Minimum K Value for Crest Vertical Curve	114	unknown	114	
Minimum K Value for Sag Vertical Curve	115	unknown	115	

Notes: 1 This value can be reduced to achieve a minimum roadway width (traveled way width + shoulder width) of 30 ft per AASHTO Table 5-5

2 For short sections less than 500 feet and for one-way downgrades, the maximum grade may be 1% steeper than the values appearing in Table 4.3.2 of the GDOT Design Manual.

Georgia Department of Transportation

Technical Provisions

For

Design-Build Agreement

P.I. No. 0015524

FY 17 Bridge Replacement Project

Attachment 4-1

SPECIAL PROVISION 107.23H

[Not available at this time]

Georgia Department of Transportation

Technical Provisions

For

Design-Build Agreement

P.I. No. 0015524

FY 17 Bridge Replacement Project

Attachment 4-2

SPECIAL PROVISION 107.23A

DEPARTMENT OF TRANSPORTATION

STATE OF GEORGIA

SPECIAL PROVISION

Section 107 – Legal Regulations and Responsibility to the Public

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Retain Section 107.23 A and add the following:

107.23 Environmental Considerations

A. Construction

For plan sets that include an Environmental Resources Impacts Table in the General Notes section, the Contractor shall abide by all restrictions noted in the Environmental Resources Impact Table.

Georgia Department of Transportation

Technical Provisions

For

Design-Build Agreement

P.I. No. 0015524

FY 17 Bridge Replacement Project

Attachment 6-1

UTILITY MOUs

Georgia DOT Project: FY 17 Bridge Replacement – 091-0032-0
GDOT P.I. 0015524

DESIGN-BUILD
MEMORANDUM OF UNDERSTANDING
between the
Georgia Department of Transportation (hereafter the DEPARTMENT)
and
Windstream Communications (hereafter the OWNER)

Whereas GDOT, hereafter referred to as the DEPARTMENT proposes to undertake a design-build project hereafter referred to as PROJECT to replace the bridge on Milan-Chauncy Road over Sugar Creek, Dodge County, Georgia by contract through competitive bidding procedures; and,

Whereas the DEPARTMENT will accomplish the PROJECT through a Design Consultant, Design Consultant Team and/or Contractor, hereafter referred to as CONTRACTOR; and the utility owner hereafter referred to as the OWNER, and

Whereas, where OWNER has property rights ("Prior Rights") at the location of the PROJECT, OWNER will provide written evidence as to said prior rights within the area and will provide written documentation of prior rights relating to any individual crossing or Utility Facility, at the location of the PROJECT; and

Whereas, OWNER acknowledges that, generally, absent a showing of prior rights, the costs of relocation, protection, removal, or adjustment performed by OWNER shall be borne by OWNER; and

Whereas, pursuant to O.C.G.A. § 32-6-170(b), DEPARTMENT is authorized to pay or participate in the payment of the costs of relocation, protection, or adjustment of OWNER'S facilities where DEPARTMENT has made the determination that (i) such payments are in the best interest of the public and necessary in order to expedite the staging of the design-build project; and (ii) the costs of the removal, relocation, protection, or adjustment of such facilities are included as part of the Contract between the Department and the Department's roadway contractor for the design-build project; and

1. Type of Utility
OWNER has the following utility facilities which may need to be adjusted or relocated as a result of the proposed PROJECT:

Type of facility or facilities of OWNER:
_____Domestic water mains and distribution lines and associated appurtenances
_____Sanitary Sewer facilities and/or Storm Drainage System
_____Electrical Distribution (overhead and underground) wires, poles, etc.
_____Electrical Transmission (overhead and underground) wires, poles, etc.
_____Natural Gas Distribution Facilities (underground)
_____Natural Gas Transmission Facilities (underground)
_____Petroleum Pipeline (underground)
__✓__Telecommunications facilities and equipment
_____Cable TV facilities
_____Street Lighting
_____Internet Data Service
_____Other Facilities (Description) _____

2. New Utility Facilities Proposed (Betterment)

OWNER desires the following to be installed as new additional facilities within the PROJECT. Insert here or attach a detailed description of proposed new additional utility installations:

_____

_____

3. Assignment of Responsibilities for Design and Construction

This MEMORANDUM OF UNDERSTANDING and the following shall serve as a *basis* for assignment of responsibilities and costs for the DEPARTMENT, CONTRACTOR and the OWNER to enter into a Standard Utility Agreement (SUA) or Contract Item Agreement (CIA), if necessary, with OWNER once the PROJECT is awarded to the CONTRACTOR. For a PROJECT implementation, GDOT will not have in its possession exact costing plans to be utilized to determine exact locations of the removal, relocation, protection, or adjustment. However, Overhead/Subsurface Utility Engineering (SUE) investigations plans exist providing the best information and signifying the layout of known existing facilities. Please use these plans for developing the final determination of services as indicated below. The CONTRACTOR developed plans will be provided to the OWNER after the design build project is awarded by GDOT which shall be used by the CONTRACTOR as the final basis for the SUA or CIA. **Betterment costs will be the OWNER'S responsibility.**

NOTE: Water and Sewer Design and Construction relocation work put in the contract will automatically be accomplished by the DEPARTMENT'S CONTRACTOR. The UTILITY OWNER will still have design approval authority. (No Pre-Approved Contractor/Consultant List required, leave page 6 blank). If you are a Water & Sewer Utility and choose to put your relocation Design and Construction in the contract, please check Design and Construction under Option 2 under 3B. Owner's electing to perform their own design, at their own cost, please select design under 3C.

OWNER hereby intends to:

3A. OWNER, at the DEPARTMENT'S cost through an Agreement, will provide the following services for the properties for which it has established prior rights (Check to signify):

Design _____
Construction _____

3B. OWNER, at the CONTRACTOR'S cost, for any removal, relocation, protection, adjustment and/or design (Regardless of Prior Rights) will allow their facilities to be placed into the DEPARTMENT'S contract for the following services pursuant to O.C.G.A. § 32-6-170(b). The CONTRACTOR will add the removal, relocation, protection, materials, adjustment and/or design cost, excluding betterment, to the overall PROJECT's cost. (Check to signify):

Option 1: OWNER wants the work to be performed by the OWNER's pre-approved Design Consultants and/or Contractors.

Design _____
Construction _____

Option 2: OWNER wants the DEPARTMENT'S CONTRACTOR to perform the design and/or construction. (Check to signify):

Design _____
Construction _____ **If both are checked, please leave page 6 blank.**

As per this section, all work necessary for the removal, relocation, protection, or adjustment of the described utilities in accordance with the plans when approved shall be included in the project contract and accomplished by the CONTRACTOR except as follows (Check none or list any work items to be performed by the OWNER)

None _____

Excluded Items _____

Comments: _____

3C. OWNER, at OWNER'S cost, will provide the following services (Check to signify):

Design ✓
Construction ✓

The following is hereby mutually agreed to and understood by both parties:

1. The identification of existing facilities including preparation of Overhead/Subsurface Utility Engineering (SUE) investigations plans will be accomplished by the DEPARTMENT prior to award of the PROJECT and thereafter supplemented by the CONTRACTOR.
2. The CONTRACTOR shall coordinate reviews of the utility relocation information and obtain acceptance from the OWNER and DEPARTMENT when required. However; the OWNER shall apply for and obtain any required permits from the DEPARTMENT and perform any final design or proprietary design needed to administer its own relocation work if the work will not be included in the contract If the preliminary plans indicate that no conflict exists, and the OWNER concurs with this information, the OWNER shall provide a letter of "no conflict" to the CONTRACTOR.
3. After award of the PROJECT, the CONTRACTOR will research any claimed compensable property interest for each OWNER claiming prior rights under section 3A and present the findings to the DEPARTMENT and OWNER for approval. The plans and estimate for the utility work shall be subject to approval of both the DEPARTMENT and the OWNER prior to construction. If the OWNER chooses to perform it own relocations and the OWNER holds no property interest as stated above; the OWNER shall confirm in writing that the OWNER will relocate its own facilities at no cost to the DEPARTMENT or the CONTRACTOR.
4. All construction engineering and contract supervision shall be the responsibility of the DEPARTMENT and the CONTRACTOR to ensure that all utility work included in the contract is accomplished in accordance with the PROJECT's plans and specifications. The CONTRACTOR will consult with the OWNER before authorizing any changes or deviations which affect the OWNER's facility.
5. For utility work included in the contract, the CONTRACTOR shall ensure that the design/construction and installation of the OWNER'S facilities is performed by a contractor/design consultant pre-approved/registered with both the DEPARTMENT and the OWNER. For any work included in the contract, excluding water and sewer, the OWNER will provide a list of pre-approved/registered contractors/design consultants on page 6 of the MOU.
6. For Utility work included in the contract, the OWNER or the OWNER's Consultant shall have the right to visit and inspect the work at any time and advise the CONTRACTOR and the DEPARTMENT'S Engineer of any observed discrepancies or potential issues. The DEPARTMENT agrees to notify the OWNER when all utility work is completed and ready for final inspection by the OWNER.
7. Upon Maintenance Acceptance or Final Acceptance of the utility work included in the contract and upon certification by the DEPARTMENT'S Engineer and the OWNER that the work has been completed in accordance with the plans and specifications, the OWNER will accept the adjusted, relocated, and additional facilities and will thereafter operate and maintain said facilities located within the PROJECT right of way subject to the DEPARTMENT'S Utility Accommodations Policy and Standards Manual (UAM), current edition" and any agreements in effect without further cost to the DEPARTMENT or it's CONTRACTOR.
8. For the purpose of utility coordination, relocation and reimbursement matters, the OWNER shall cooperate with the CONTRACTOR in the same manner as if coordinating directly with the DEPARTMENT in accordance with the laws of the State of Georgia, the DEPARTMENT'S UAM and any agreements in effect between the DEPARTMENT and OWNER. The OWNER agrees to cooperate in good faith with the CONTRACTOR and to respond to all requests for information or meetings required to reach a resolution of any disputed items.
9. All Utility work included in the PROJECT's contract and Utility work completed by the OWNER that is reimbursed by the DEPARTMENT through an agreement shall be in accordance with the BUY AMERICA requirements of the Federal regulations (23 U.S.C. 313 and 23 CFR 635.410) all manufacturing processes for steel and iron products or predominantly of steel or iron (at least 90% steel or iron content) furnished for permanent incorporation into the work on this project shall occur in the United States. The only exception to

this requirement is the production of pig iron and the processing, pelletizing and reduction of iron ore, which may occur in another country. Other than there exceptions, all melting, rolling, extruding, machining, bending, grinding, drilling, coating, etc. must occur in the United States.

a. Products of steel include, but are not limited to, such products as structural steel piles, reinforcing steel, structural plate, steel culverts, and guardrail steel supports for signs, signals and luminaires. Products of iron include, but are not limited to, such products as cast iron frames and grates and ductile iron pipe. Coatings include, but are not limited to, the applications of epoxy, galvanizing and paint. The coating material is not limited to this clause, only the application process.

b. A Certificate of Compliance shall be furnished for steel and iron products as part of the backup information with the billing. The form for this certification entitled "Buy America Certificate of Compliance" is attached to this agreement as "Exhibit A." Records to be maintained by the Developer for this certification shall include a signed mill test report and a signed certification by each supplier, distributor, fabricator, and manufacturer that has handled the steel or iron product affirming that every process, including the application of a coating, performed on the steel or iron product has been carried out in the United States of America, except as allowed by this Section. The lack of these certifications will be justification for rejection of the steel and/or iron product or nonpayment of the work.

c. The requirements of said law and regulations do not prevent the use of miscellaneous steel or iron components, subcomponents and hardware necessary to encase, assemble and construct the above products, manufactured products that are not predominantly steel or iron or a minimal use of foreign steel and iron materials if the cost of such materials used does not exceed one-tenth of one percent (0.1%) of the total contract price or $2,500.00, whichever is greater.

The Memorandum of Understanding will be incorporated into the project contract by reference or Exhibit.

APPROVED FOR THE OWNER BY:

Jim Thacker — 03/23/17

(Signature) (Date)

SENIOR ENGINEER

(Title)

APPROVED FOR THE DEPARTMENT BY:

Patrick M — 4/13/17

(Signature) (Date)

STATE UTILITIES ADMINISTRATOR

Pre-Approved Contractor List

Company Name:
Address:
Phone:
Contact Person:
E-Mail:

Company Name:
Address:
Phone:
Contact Person:
E-Mail:

Company Name:
Address:
Phone:
Contact Person:
E-Mail:

Please provide a minimum of three.

Pre-Approved Design Consultant List

Company Name:
Address:
Phone:
Contact Person:
E-Mail:

Company Name:
Address:
Phone:
Contact Person:
E-Mail:

Company Name:
Address:
Phone:
Contact Person:
E-Mail:

Georgia DOT Project: FY 17 Bridge Replacement – 101-5003-0
GDOT P.I. 0015524

DESIGN-BUILD
MEMORANDUM OF UNDERSTANDING
between the
Georgia Department of Transportation (hereafter the DEPARTMENT)
and
Georgia Power Company (hereafter the OWNER)

Whereas GDOT, hereafter referred to as the DEPARTMENT proposes to undertake a design-build project hereafter referred to as PROJECT to replace the bridge on Toms Creek Road over Toms Creek, Echols County, Georgia by contract through competitive bidding procedures; and,

Whereas the DEPARTMENT will accomplish the PROJECT through a Design Consultant, Design Consultant Team and/or Contractor, hereafter referred to as CONTRACTOR; and the utility owner hereafter referred to as the OWNER, and

Whereas, where OWNER has property rights ("Prior Rights") at the location of the PROJECT, OWNER will provide written evidence as to said prior rights within the area and will provide written documentation of prior rights relating to any individual crossing or Utility Facility, at the location of the PROJECT; and

Whereas, OWNER acknowledges that, generally, absent a showing of prior rights, the costs of relocation, protection, removal, or adjustment performed by OWNER shall be borne by OWNER; and

Whereas, pursuant to O.C.G.A. § 32-6-170(b), DEPARTMENT is authorized to pay or participate in the payment of the costs of relocation, protection, or adjustment of OWNER'S facilities where DEPARTMENT has made the determination that (i) such payments are in the best interest of the public and necessary in order to expedite the staging of the design-build project; and (ii) the costs of the removal, relocation, protection, or adjustment of such facilities are included as part of the Contract between the Department and the Department's roadway contractor for the design-build project; and

1. Type of Utility
OWNER has the following utility facilities which may need to be adjusted or relocated as a result of the proposed PROJECT:

Type of facility or facilities of OWNER:
_____Domestic water mains and distribution lines and associated appurtenances
_____Sanitary Sewer facilities and/or Storm Drainage System
__x__Electrical Distribution (overhead and underground) wires, poles, etc.
_____Electrical Transmission (overhead and underground) wires, poles, etc.
_____Natural Gas Distribution Facilities (underground)
_____Natural Gas Transmission Facilities (underground)
_____Petroleum Pipeline (underground)
_____Telecommunications facilities and equipment
_____Cable TV facilities
_____Street Lighting
_____Internet Data Service
_____Other Facilities (Description) _____325_____

2. New Utility Facilities Proposed (Betterment)

OWNER desires the following to be installed as new additional facilities within the PROJECT. Insert here or attach a detailed description of proposed new additional utility installations:

N/A

3. Assignment of Responsibilities for Design and Construction

This MEMORANDUM OF UNDERSTANDING and the following shall serve as a *basis* for assignment of responsibilities and costs for the DEPARTMENT, CONTRACTOR and the OWNER to enter into a Standard Utility Agreement (SUA) or Contract Item Agreement (CIA), if necessary, with OWNER once the PROJECT is awarded to the CONTRACTOR. For a PROJECT implementation, GDOT will not have in its possession exact costing plans to be utilized to determine exact locations of the removal, relocation, protection, or adjustment. However, Overhead/Subsurface Utility Engineering (SUE) investigations plans exist providing the best information and signifying the layout of known existing facilities. Please use these plans for developing the final determination of services as indicated below. The CONTRACTOR developed plans will be provided to the OWNER after the design build project is awarded by GDOT which shall be used by the CONTRACTOR as the final basis for the SUA or CIA. **Betterment costs will be the OWNER'S responsibility.**

NOTE: Water and Sewer Design and Construction relocation work put in the contract will automatically be accomplished by the DEPARTMENT'S CONTRACTOR. The UTILITY OWNER will still have design approval authority. (No Pre-Approved Contractor/Consultant List required, leave page 6 blank). If you are a Water & Sewer Utility and choose to put your relocation Design and Construction in the contract, please check Design and Construction under Option 2 under 3B. Owner's electing to perform their own design, at their own cost, please select design under 3C.

OWNER hereby intends to:

3A. OWNER, at the DEPARTMENT'S cost through an Agreement, will provide the following services for the properties for which it has established prior rights (Check to signify):

Design _____
Construction _____

3B. OWNER, at the CONTRACTOR'S cost, for any removal, relocation, protection, adjustment and/or design (Regardless of Prior Rights) will allow their facilities to be placed into the DEPARTMENT'S contract for the following services pursuant to O.C.G.A. § 32-6-170(b). The CONTRACTOR will add the removal, relocation, protection, materials, adjustment and/or design cost, excluding betterment, to the overall PROJECT's cost. (Check to signify):

Option 1: OWNER wants the work to be performed by the OWNER's pre-approved Design Consultants and/or Contractors.

Design __x__
Construction __x__

Option 2: OWNER wants the DEPARTMENT'S CONTRACTOR to perform the design and/or construction. (Check to signify):

Design ____
Construction ____ **If both are checked, please leave page 6 blank.**

As per this section, all work necessary for the removal, relocation, protection, or adjustment of the described utilities in accordance with the plans when approved shall be included in the project contract and accomplished by the CONTRACTOR except as follows (Check none or list any work items to be performed by the OWNER)

None __x__

Excluded Items _____
_____
_____

Comments: _____
_____
_____
_____
_____
_____
_____

3C. OWNER, at OWNER'S cost, will provide the following services (Check to signify):

Design _____
Construction _____

The following is hereby mutually agreed to and understood by both parties:

1. The identification of existing facilities including preparation of Overhead/Subsurface Utility Engineering (SUE) investigations plans will be accomplished by the DEPARTMENT prior to award of the PROJECT and thereafter supplemented by the CONTRACTOR.
2. The CONTRACTOR shall coordinate reviews of the utility relocation information and obtain acceptance from the OWNER and DEPARTMENT when required. However; the OWNER shall apply for and obtain any required permits from the DEPARTMENT and perform any final design or proprietary design needed to administer its own relocation work if the work will not be included in the contract If the preliminary plans indicate that no conflict exists, and the OWNER concurs with this information, the OWNER shall provide a letter of "no conflict" to the CONTRACTOR.
3. ~~After award of the PROJECT, the CONTRACTOR will research any claimed compensable property interest~~ for each OWNER claiming prior rights under section 3A and present the findings to the DEPARTMENT and OWNER for approval. The plans and estimate for the utility work shall be subject to approval of both the DEPARTMENT and the OWNER prior to construction. If the OWNER chooses to perform it own relocations and the OWNER holds no property interest as stated above; the OWNER shall confirm in writing that the OWNER will relocate its own facilities at no cost to the DEPARTMENT or the CONTRACTOR.
4. All construction engineering and contract supervision shall be the responsibility of the DEPARTMENT and the CONTRACTOR to ensure that all utility work included in the contract is accomplished in accordance with the PROJECT's plans and specifications. The CONTRACTOR will consult with the OWNER before authorizing any changes or deviations which affect the OWNER's facility.
5. For utility work included in the contract, the CONTRACTOR shall ensure that the design/construction and installation of the OWNER'S facilities is performed by a contractor/design consultant pre-approved/registered with both the DEPARTMENT and the OWNER. For any work included in the contract, excluding water and sewer, the OWNER will provide a list of pre-approved/registered contractors/design consultants on page 6 of the MOU.
6. For Utility work included in the contract, the OWNER or the OWNER's Consultant shall have the right to visit and inspect the work at any time and advise the CONTRACTOR and the DEPARTMENT'S Engineer of any observed discrepancies or potential issues. The DEPARTMENT agrees to notify the OWNER when all utility work is completed and ready for final inspection by the OWNER.
7. Upon Maintenance Acceptance or Final Acceptance of the utility work included in the contract and upon certification by the DEPARTMENT'S Engineer and the OWNER that the work has been completed in accordance with the plans and specifications, the OWNER will accept the adjusted, relocated, and additional facilities and will thereafter operate and maintain said facilities located within the PROJECT right of way subject to the DEPARTMENT'S Utility Accommodations Policy and Standards Manual (UAM), current edition" and any agreements in effect without further cost to the DEPARTMENT or it's CONTRACTOR.
8. For the purpose of utility coordination, relocation and reimbursement matters, the OWNER shall cooperate with the CONTRACTOR in the same manner as if coordinating directly with the DEPARTMENT in accordance with the laws of the State of Georgia, the DEPARTMENT'S UAM and any agreements in effect between the DEPARTMENT and OWNER. The OWNER agrees to cooperate in good faith with the CONTRACTOR and to respond to all requests for information or meetings required to reach a resolution of any disputed items.
9. All Utility work included in the PROJECT's contract and Utility work completed by the OWNER that is reimbursed by the DEPARTMENT through an agreement shall be in accordance with the BUY AMERICA requirements of the Federal regulations (23 U.S.C. 313 and 23 CFR 635.410) all manufacturing processes for steel and iron products or predominantly of steel or iron (at least 90% steel or iron content) furnished for permanent incorporation into the work on this project shall occur in the United States. The only exception to

this requirement is the production of pig iron and the processing, pelletizing and reduction of iron ore, which may occur in another country. Other than there exceptions, all melting, rolling, extruding, machining, bending, grinding, drilling, coating, etc. must occur in the United States.

a. Products of steel include, but are not limited to, such products as structural steel piles, reinforcing steel, structural plate, steel culverts, and guardrail steel supports for signs, signals and luminaires. Products of iron include, but are not limited to, such products as cast iron frames and grates and ductile iron pipe. Coatings include, but are not limited to, the applications of epoxy, galvanizing and paint. The coating material is not limited to this clause, only the application process.

b. A Certificate of Compliance shall be furnished for steel and iron products as part of the backup information with the billing. The form for this certification entitled "Buy America Certificate of Compliance" is attached to this agreement as "Exhibit A." Records to be maintained by the Developer for this certification shall include a signed mill test report and a signed certification by each supplier, distributor, fabricator, and manufacturer that has handled the steel or iron product affirming that every process, including the application of a coating, performed on the steel or iron product has been carried out in the United States of America, except as allowed by this Section. The lack of these certifications will be justification for rejection of the steel and/or iron product or nonpayment of the work.

c. The requirements of said law and regulations do not prevent the use of miscellaneous steel or iron components, subcomponents and hardware necessary to encase, assemble and construct the above products, manufactured products that are not predominantly steel or iron or a minimal use of foreign steel and iron materials if the cost of such materials used does not exceed one-tenth of one percent (0.1%) of the total contract price or $2,500.00, whichever is greater.

The Memorandum of Understanding will be incorporated into the project contract by reference or Exhibit.

APPROVED FOR THE OWNER BY:

Mark Tilden
(Signature)

April 3, 2017
(Date)

Project Manager
(Title)

APPROVED FOR THE DEPARTMENT BY:

(Signature)

4/13/17
(Date)

STATE UTILITIES ADMINISTRATOR

Pre-Approved Contractor List

Company Name: See Attached List
Address:
Phone:
Contact Person:
E-Mail:

Company Name:
Address:
Phone:
Contact Person:
E-Mail:

Company Name:
Address:
Phone:
Contact Person:
E-Mail:

Please provide a minimum of three.

Pre-Approved Design Consultant List

Company Name: See Attached List
Address:
Phone:
Contact Person:
E-Mail:

Company Name:
Address:
Phone:
Contact Person:
E-Mail:

Company Name:
Address:
Phone:
Contact Person:
E-Mail:

GEORGIA POWER COMPANY

Design Contractors				
Name	Contact	Phone Numbe	Email	Address
McLean Engineering	Sean Knowles	(404) 520-0288	sean.knowles@mcleanengineering.com	1954 Airport Road, Suite 214, Chamblee GA 30341
Storm Services	Chester Parker David Dent	(706) 833-4368 (678) 726-7551	cparker48@gmail.com; david@stormsl.com	432 Wateroak Lane, Augusta, GA 30907
UC / Synergetic	Mark Murray	770-835-0319	mmurray@ucsinc.com	1700 Water Place, Suite 100, Atlanta, GA
Construction Contractors				
Name	Contact	Phone Numbe	Email	Address
Associated Diversified	Don McCurdy Kelli James	(256)221-8696 (256) 351-8622	dmccurdy@wearediversified.com kjames@wearediversified.com	2910 Hwy 31 NW Hartselle, AL 35640
MasTec	Thomas Jones	218-785-3030	thomas.jones@mastec.com	800 S. Douglas Road, 12th Floor Coral Gables, FL 33134
Pike Electric	Todd Badgett	333-719-4431	tbadgett@pike.com	P.O. Box 868,100 Pike Way Mount Airy, NC 27030
Service Electric	Jody Shea	(423) 265-3161 x102	jshea@serviceelectricco.com	1631 East 25th Street PO Box 3656, CHATANOOGA TN 37404
Sumter Utilities	Mikell Murray	843-725-9521	jmmurray@suimail.com	1151 North Pike West Sumter, SC 29151
Utilicon	Jimmy Glover	(478) 348-3233	j.glover@utilicon.net	13275 Highway 231 Davisboro, Ga 31018
Williams Electric	Rick Falls	(704) 484-1882	rick.falls@weco.com	P.O. Box 2367 Shelby, NC 28151

Georgia DOT Project: FY 17 Bridge Replacement – 101-5003-0
GDOT P.I. 0015524

DESIGN-BUILD
MEMORANDUM OF UNDERSTANDING
between the
Georgia Department of Transportation (hereafter the DEPARTMENT)
and
Windstream Communications (hereafter the OWNER)

Whereas GDOT, hereafter referred to as the DEPARTMENT proposes to undertake a design-build project hereafter referred to as PROJECT to replace the bridge on Toms Creek Road over Toms Creek, Echols County, Georgia by contract through competitive bidding procedures; and,

Whereas the DEPARTMENT will accomplish the PROJECT through a Design Consultant, Design Consultant Team and/or Contractor, hereafter referred to as CONTRACTOR; and the utility owner hereafter referred to as the OWNER, and

Whereas, where OWNER has property rights ("Prior Rights") at the location of the PROJECT, OWNER will provide written evidence as to said prior rights within the area and will provide written documentation of prior rights relating to any individual crossing or Utility Facility, at the location of the PROJECT; and

Whereas, OWNER acknowledges that, generally, absent a showing of prior rights, the costs of relocation, protection, removal, or adjustment performed by OWNER shall be borne by OWNER; and

Whereas, pursuant to O.C.G.A. § 32-6-170(b), DEPARTMENT is authorized to pay or participate in the payment of the costs of relocation, protection, or adjustment of OWNER'S facilities where DEPARTMENT has made the determination that (i) such payments are in the best interest of the public and necessary in order to expedite the staging of the design-build project; and (ii) the costs of the removal, relocation, protection, or adjustment of such facilities are included as part of the Contract between the Department and the Department's roadway contractor for the design-build project; and

1. Type of Utility
OWNER has the following utility facilities which may need to be adjusted or relocated as a result of the proposed PROJECT:

Type of facility or facilities of OWNER:
_____Domestic water mains and distribution lines and associated appurtenances
_____Sanitary Sewer facilities and/or Storm Drainage System
_____Electrical Distribution (overhead and underground) wires, poles, etc.
_____Electrical Transmission (overhead and underground) wires, poles, etc.
_____Natural Gas Distribution Facilities (underground)
_____Natural Gas Transmission Facilities (underground)
_____Petroleum Pipeline (underground)
__X__Telecommunications facilities and equipment
_____Cable TV facilities
_____Street Lighting
_____Internet Data Service
_____Other Facilities (Description) _____

2. New Utility Facilities Proposed (Betterment)

OWNER desires the following to be installed as new additional facilities within the PROJECT. Insert here or attach a detailed description of proposed new additional utility installations:

_____

_____

3. Assignment of Responsibilities for Design and Construction

This MEMORANDUM OF UNDERSTANDING and the following shall serve as a *basis* for assignment of responsibilities and costs for the DEPARTMENT, CONTRACTOR and the OWNER to enter into a Standard Utility Agreement (SUA) or Contract Item Agreement (CIA), if necessary, with OWNER once the PROJECT is awarded to the CONTRACTOR. For a PROJECT implementation, GDOT will not have in its possession exact costing plans to be utilized to determine exact locations of the removal, relocation, protection, or adjustment. However, Overhead/Subsurface Utility Engineering (SUE) investigations plans exist providing the best information and signifying the layout of known existing facilities. Please use these plans for developing the final determination of services as indicated below. The CONTRACTOR developed plans will be provided to the OWNER after the design build project is awarded by GDOT which shall be used by the CONTRACTOR as the final basis for the SUA or CIA. **Betterment costs will be the OWNER'S responsibility.**

NOTE: Water and Sewer Design and Construction relocation work put in the contract will automatically be accomplished by the DEPARTMENT'S CONTRACTOR. The UTILITY OWNER will still have design approval authority. (No Pre-Approved Contractor/Consultant List required, leave page 6 blank). If you are a Water & Sewer Utility and choose to put your relocation Design and Construction in the contract, please check Design and Construction under Option 2 under 3B. Owner's electing to perform their own design, at their own cost, please select design under 3C.

OWNER hereby intends to:

3A. OWNER, at the DEPARTMENT'S cost through an Agreement, will provide the following services for the properties for which it has established prior rights (Check to signify):

Design _____
Construction _____

3B. OWNER, at the CONTRACTOR'S cost, for any removal, relocation, protection, adjustment and/or design (Regardless of Prior Rights) will allow their facilities to be placed into the DEPARTMENT'S contract for the following services pursuant to O.C.G.A. § 32-6-170(b). The CONTRACTOR will add the removal, relocation, protection, materials, adjustment and/or design cost, excluding betterment, to the overall PROJECT's cost. (Check to signify):

Option 1: OWNER wants the work to be performed by the OWNER's pre-approved Design Consultants and/or Contractors.

Design _____
Construction _____

Option 2: OWNER wants the DEPARTMENT'S CONTRACTOR to perform the design and/or construction. (Check to signify):

Design ____
Construction ____ **If both are checked, please leave page 6 blank.**

As per this section, all work necessary for the removal, relocation, protection, or adjustment of the described utilities in accordance with the plans when approved shall be included in the project contract and accomplished by the CONTRACTOR except as follows (Check none or list any work items to be performed by the OWNER)

None _____

Excluded Items _____
_____
_____

Comments: _____
_____
_____
_____
_____
_____
_____

3C. OWNER, at OWNER'S cost, will provide the following services (Check to signify):

Design X
Construction X

The following is hereby mutually agreed to and understood by both parties:

1. The identification of existing facilities including preparation of Overhead/Subsurface Utility Engineering (SUE) investigations plans will be accomplished by the DEPARTMENT prior to award of the PROJECT and thereafter supplemented by the CONTRACTOR.
2. The CONTRACTOR shall coordinate reviews of the utility relocation information and obtain acceptance from the OWNER and DEPARTMENT when required. However; the OWNER shall apply for and obtain any required permits from the DEPARTMENT and perform any final design or proprietary design needed to administer its own relocation work if the work will not be included in the contract If the preliminary plans indicate that no conflict exists, and the OWNER concurs with this information, the OWNER shall provide a letter of "no conflict" to the CONTRACTOR.
3. After award of the PROJECT, the CONTRACTOR will research any claimed compensable property interest for each OWNER claiming prior rights under section 3A and present the findings to the DEPARTMENT and OWNER for approval. The plans and estimate for the utility work shall be subject to approval of both the DEPARTMENT and the OWNER prior to construction. If the OWNER chooses to perform it own relocations and the OWNER holds no property interest as stated above; the OWNER shall confirm in writing that the OWNER will relocate its own facilities at no cost to the DEPARTMENT or the CONTRACTOR.
4. All construction engineering and contract supervision shall be the responsibility of the DEPARTMENT and the CONTRACTOR to ensure that all utility work included in the contract is accomplished in accordance with the PROJECT's plans and specifications. The CONTRACTOR will consult with the OWNER before authorizing any changes or deviations which affect the OWNER's facility.
5. For utility work included in the contract, the CONTRACTOR shall ensure that the design/construction and installation of the OWNER'S facilities is performed by a contractor/design consultant pre-approved/registered with both the DEPARTMENT and the OWNER. For any work included in the contract, excluding water and sewer, the OWNER will provide a list of pre-approved/registered contractors/design consultants on page 6 of the MOU.
6. For Utility work included in the contract, the OWNER or the OWNER's Consultant shall have the right to visit and inspect the work at any time and advise the CONTRACTOR and the DEPARTMENT'S Engineer of any observed discrepancies or potential issues. The DEPARTMENT agrees to notify the OWNER when all utility work is completed and ready for final inspection by the OWNER.
7. Upon Maintenance Acceptance or Final Acceptance of the utility work included in the contract and upon certification by the DEPARTMENT'S Engineer and the OWNER that the work has been completed in accordance with the plans and specifications, the OWNER will accept the adjusted, relocated, and additional facilities and will thereafter operate and maintain said facilities located within the PROJECT right of way subject to the DEPARTMENT'S Utility Accommodations Policy and Standards Manual (UAM), current edition" and any agreements in effect without further cost to the DEPARTMENT or it's CONTRACTOR.
8. For the purpose of utility coordination, relocation and reimbursement matters, the OWNER shall cooperate with the CONTRACTOR in the same manner as if coordinating directly with the DEPARTMENT in accordance with the laws of the State of Georgia, the DEPARTMENT'S UAM and any agreements in effect between the DEPARTMENT and OWNER. The OWNER agrees to cooperate in good faith with the CONTRACTOR and to respond to all requests for information or meetings required to reach a resolution of any disputed items.
9. All Utility work included in the PROJECT's contract and Utility work completed by the OWNER that is reimbursed by the DEPARTMENT through an agreement shall be in accordance with the BUY AMERICA requirements of the Federal regulations (23 U.S.C. 313 and 23 CFR 635.410) all manufacturing processes for steel and iron products or predominantly of steel or iron (at least 90% steel or iron content) furnished for permanent incorporation into the work on this project shall occur in the United States. The only exception to

this requirement is the production of pig iron and the processing, pelletizing and reduction of iron ore, which may occur in another country. Other than there exceptions, all melting, rolling, extruding, machining, bending, grinding, drilling, coating, etc. must occur in the United States.

a. Products of steel include, but are not limited to, such products as structural steel piles, reinforcing steel, structural plate, steel culverts, and guardrail steel supports for signs, signals and luminaires. Products of iron include, but are not limited to, such products as cast iron frames and grates and ductile iron pipe. Coatings include, but are not limited to, the applications of epoxy, galvanizing and paint. The coating material is not limited to this clause, only the application process.

b. A Certificate of Compliance shall be furnished for steel and iron products as part of the backup information with the billing. The form for this certification entitled "Buy America Certificate of Compliance" is attached to this agreement as "Exhibit A." Records to be maintained by the Developer for this certification shall include a signed mill test report and a signed certification by each supplier, distributor, fabricator, and manufacturer that has handled the steel or iron product affirming that every process, including the application of a coating, performed on the steel or iron product has been carried out in the United States of America, except as allowed by this Section. The lack of these certifications will be justification for rejection of the steel and/or iron product or nonpayment of the work.

c. The requirements of said law and regulations do not prevent the use of miscellaneous steel or iron components, subcomponents and hardware necessary to encase, assemble and construct the above products, manufactured products that are not predominantly steel or iron or a minimal use of foreign steel and iron materials if the cost of such materials used does not exceed one-tenth of one percent (0.1%) of the total contract price or $2,500.00, whichever is greater.

The Memorandum of Understanding will be incorporated into the project contract by reference or Exhibit.

APPROVED FOR THE OWNER BY:

Stephen Bowman — 3-29-2017

(Signature) (Date)

Director - OSP

(Title)

APPROVED FOR THE DEPARTMENT BY:

Patrick D. M. — 4/13/17

(Signature) (Date)

STATE UTILITIES ADMINISTRATOR

Pre-Approved Contractor List

Company Name:
Address:
Phone:
Contact Person:
E-Mail:

Company Name:
Address:
Phone:
Contact Person:
E-Mail:

Company Name:
Address:
Phone:
Contact Person:
E-Mail:

Please provide a minimum of three.

Pre-Approved Design Consultant List

Company Name:
Address:
Phone:
Contact Person:
E-Mail:

Company Name:
Address:
Phone:
Contact Person:
E-Mail:

Company Name:
Address:
Phone:
Contact Person:
E-Mail:

Georgia DOT Project: FY 17 Bridge Replacement – 071-0050-0
GDOT P.I. 0015524

DESIGN-BUILD
MEMORANDUM OF UNDERSTANDING
between the
Georgia Department of Transportation (hereafter the DEPARTMENT)
and
Colquitt EMC (hereafter the OWNER)

Whereas GDOT, hereafter referred to as the DEPARTMENT proposes to undertake a design-build project hereafter referred to as PROJECT to replace the bridge on Doerun-Norman Park over Okapilco Creek, Colquitt County, Georgia by contract through competitive bidding procedures; and,

Whereas the DEPARTMENT will accomplish the PROJECT through a Design Consultant, Design Consultant Team and/or Contractor, hereafter referred to as CONTRACTOR; and the utility owner hereafter referred to as the OWNER, and

Whereas, where OWNER has property rights ("Prior Rights") at the location of the PROJECT, OWNER will provide written evidence as to said prior rights within the area and will provide written documentation of prior rights relating to any individual crossing or Utility Facility, at the location of the PROJECT; and

Whereas, OWNER acknowledges that, generally, absent a showing of prior rights, the costs of relocation, protection, removal, or adjustment performed by OWNER shall be borne by OWNER; and

Whereas, pursuant to O.C.G.A. § 32-6-170(b), DEPARTMENT is authorized to pay or participate in the payment of the costs of relocation, protection, or adjustment of OWNER'S facilities where DEPARTMENT has made the determination that (i) such payments are in the best interest of the public and necessary in order to expedite the staging of the design-build project; and (ii) the costs of the removal, relocation, protection, or adjustment of such facilities are included as part of the Contract between the Department and the Department's roadway contractor for the design-build project; and

1. Type of Utility
OWNER has the following utility facilities which may need to be adjusted or relocated as a result of the proposed PROJECT:

Type of facility or facilities of OWNER:
_____Domestic water mains and distribution lines and associated appurtenances
_____Sanitary Sewer facilities and/or Storm Drainage System
__✓__Electrical Distribution (overhead and underground) wires, poles, etc.
_____Electrical Transmission (overhead and underground) wires, poles, etc.
_____Natural Gas Distribution Facilities (underground)
_____Natural Gas Transmission Facilities (underground)
_____Petroleum Pipeline (underground)
_____Telecommunications facilities and equipment
_____Cable TV facilities
_____Street Lighting
_____Internet Data Service
_____Other Facilities (Description) _____

2. New Utility Facilities Proposed (Betterment)

OWNER desires the following to be installed as new additional facilities within the PROJECT. Insert here or attach a detailed description of proposed new additional utility installations:

NA

3. Assignment of Responsibilities for Design and Construction

This MEMORANDUM OF UNDERSTANDING and the following shall serve as a *basis* for assignment of responsibilities and costs for the DEPARTMENT, CONTRACTOR and the OWNER to enter into a Standard Utility Agreement (SUA) or Contract Item Agreement (CIA), if necessary, with OWNER once the PROJECT is awarded to the CONTRACTOR. For a PROJECT implementation, GDOT will not have in its possession exact costing plans to be utilized to determine exact locations of the removal, relocation, protection, or adjustment. However, Overhead/Subsurface Utility Engineering (SUE) investigations plans exist providing the best information and signifying the layout of known existing facilities. Please use these plans for developing the final determination of services as indicated below. The CONTRACTOR developed plans will be provided to the OWNER after the design build project is awarded by GDOT which shall be used by the CONTRACTOR as the final basis for the SUA or CIA. **Betterment costs will be the OWNER'S responsibility.**

NOTE: Water and Sewer Design and Construction relocation work put in the contract will automatically be accomplished by the DEPARTMENT'S CONTRACTOR. The UTILITY OWNER will still have design approval authority. (No Pre-Approved Contractor/Consultant List required, leave page 6 blank). If you are a Water & Sewer Utility and choose to put your relocation Design and Construction in the contract, please check Design and Construction under Option 2 under 3B. Owner's electing to perform their own design, at their own cost, please select design under 3C.

OWNER hereby intends to:

3A. OWNER, at the DEPARTMENT'S cost through an Agreement, will provide the following services for the properties for which it has established prior rights (Check to signify):

Design _____
Construction _____

3B. OWNER, at the CONTRACTOR'S cost, for any removal, relocation, protection, adjustment and/or design (Regardless of Prior Rights) will allow their facilities to be placed into the DEPARTMENT'S contract for the following services pursuant to O.C.G.A. § 32-6-170(b). The CONTRACTOR will add the removal, relocation, protection, materials, adjustment and/or design cost, excluding betterment, to the overall PROJECT's cost. (Check to signify):

Option 1: OWNER wants the work to be performed by the OWNER's pre-approved Design Consultants and/or Contractors.

Design _____
Construction _____

Option 2: OWNER wants the DEPARTMENT'S CONTRACTOR to perform the design and/or construction. (Check to signify):

Design ____
Construction ____ **If both are checked, please leave page 6 blank.**

As per this section, all work necessary for the removal, relocation, protection, or adjustment of the described utilities in accordance with the plans when approved shall be included in the project contract and accomplished by the CONTRACTOR except as follows (Check none or list any work items to be performed by the OWNER)

None _____

Excluded Items _____
_____
_____

Comments: _____
_____
_____
_____
_____
_____
_____

3C. OWNER, at OWNER'S cost, will provide the following services (Check to signify):

Design ✓
Construction ✓

The following is hereby mutually agreed to and understood by both parties:

1. The identification of existing facilities including preparation of Overhead/Subsurface Utility Engineering (SUE) investigations plans will be accomplished by the DEPARTMENT prior to award of the PROJECT and thereafter supplemented by the CONTRACTOR.
2. The CONTRACTOR shall coordinate reviews of the utility relocation information and obtain acceptance from the OWNER and DEPARTMENT when required. However; the OWNER shall apply for and obtain any required permits from the DEPARTMENT and perform any final design or proprietary design needed to administer its own relocation work if the work will not be included in the contract If the preliminary plans indicate that no conflict exists, and the OWNER concurs with this information, the OWNER shall provide a letter of "no conflict" to the CONTRACTOR.
3. After award of the PROJECT, the CONTRACTOR will research any claimed compensable property interest for each OWNER claiming prior rights under section 3A and present the findings to the DEPARTMENT and OWNER for approval. The plans and estimate for the utility work shall be subject to approval of both the DEPARTMENT and the OWNER prior to construction. If the OWNER chooses to perform it own relocations and the OWNER holds no property interest as stated above; the OWNER shall confirm in writing that the OWNER will relocate its own facilities at no cost to the DEPARTMENT or the CONTRACTOR.
4. All construction engineering and contract supervision shall be the responsibility of the DEPARTMENT and the CONTRACTOR to ensure that all utility work included in the contract is accomplished in accordance with the PROJECT's plans and specifications. The CONTRACTOR will consult with the OWNER before authorizing any changes or deviations which affect the OWNER's facility.
5. For utility work included in the contract, the CONTRACTOR shall ensure that the design/construction and installation of the OWNER'S facilities is performed by a contractor/design consultant pre-approved/registered with both the DEPARTMENT and the OWNER. For any work included in the contract, excluding water and sewer, the OWNER will provide a list of pre-approved/registered contractors/design consultants on page 6 of the MOU.
6. For Utility work included in the contract, the OWNER or the OWNER's Consultant shall have the right to visit and inspect the work at any time and advise the CONTRACTOR and the DEPARTMENT'S Engineer of any observed discrepancies or potential issues. The DEPARTMENT agrees to notify the OWNER when all utility work is completed and ready for final inspection by the OWNER.
7. Upon Maintenance Acceptance or Final Acceptance of the utility work included in the contract and upon certification by the DEPARTMENT'S Engineer and the OWNER that the work has been completed in accordance with the plans and specifications, the OWNER will accept the adjusted, relocated, and additional facilities and will thereafter operate and maintain said facilities located within the PROJECT right of way subject to the DEPARTMENT'S Utility Accommodations Policy and Standards Manual (UAM), current edition" and any agreements in effect without further cost to the DEPARTMENT or it's CONTRACTOR.
8. For the purpose of utility coordination, relocation and reimbursement matters, the OWNER shall cooperate with the CONTRACTOR in the same manner as if coordinating directly with the DEPARTMENT in accordance with the laws of the State of Georgia, the DEPARTMENT'S UAM and any agreements in effect between the DEPARTMENT and OWNER. The OWNER agrees to cooperate in good faith with the CONTRACTOR and to respond to all requests for information or meetings required to reach a resolution of any disputed items.
9. All Utility work included in the PROJECT's contract and Utility work completed by the OWNER that is reimbursed by the DEPARTMENT through an agreement shall be in accordance with the BUY AMERICA requirements of the Federal regulations (23 U.S.C. 313 and 23 CFR 635.410) all manufacturing processes for steel and iron products or predominantly of steel or iron (at least 90% steel or iron content) furnished for permanent incorporation into the work on this project shall occur in the United States. The only exception to

this requirement is the production of pig iron and the processing, pelletizing and reduction of iron ore, which may occur in another country. Other than there exceptions, all melting, rolling, extruding, machining, bending, grinding, drilling, coating, etc. must occur in the United States.

a. Products of steel include, but are not limited to, such products as structural steel piles, reinforcing steel, structural plate, steel culverts, and guardrail steel supports for signs, signals and luminaires. Products of iron include, but are not limited to, such products as cast iron frames and grates and ductile iron pipe. Coatings include, but are not limited to, the applications of epoxy, galvanizing and paint. The coating material is not limited to this clause, only the application process.

b. A Certificate of Compliance shall be furnished for steel and iron products as part of the backup information with the billing. The form for this certification entitled "Buy America Certificate of Compliance" is attached to this agreement as "Exhibit A." Records to be maintained by the Developer for this certification shall include a signed mill test report and a signed certification by each supplier, distributor, fabricator, and manufacturer that has handled the steel or iron product affirming that every process, including the application of a coating, performed on the steel or iron product has been carried out in the United States of America, except as allowed by this Section. The lack of these certifications will be justification for rejection of the steel and/or iron product or nonpayment of the work.

c. The requirements of said law and regulations do not prevent the use of miscellaneous steel or iron components, subcomponents and hardware necessary to encase, assemble and construct the above products, manufactured products that are not predominantly steel or iron or a minimal use of foreign steel and iron materials if the cost of such materials used does not exceed one-tenth of one percent (0.1%) of the total contract price or $2,500.00, whichever is greater.

The Memorandum of Understanding will be incorporated into the project contract by reference or Exhibit.

APPROVED FOR THE OWNER BY:

Laurie Lott — 3/10/2017
(Signature) (Date)

System Planning Engineer
(Title)

APPROVED FOR THE DEPARTMENT BY:

Patrick M — 4/13/17
(Signature) (Date)

STATE UTILITIES ADMINISTRATOR

Pre-Approved Contractor List

Company Name:
Address:
Phone:
Contact Person:
E-Mail:

Company Name:
Address:
Phone:
Contact Person:
E-Mail:

Company Name:
Address:
Phone:
Contact Person:
E-Mail:

Please provide a minimum of three.

Pre-Approved Design Consultant List

Company Name:
Address:
Phone:
Contact Person:
E-Mail:

Company Name:
Address:
Phone:
Contact Person:
E-Mail:

Company Name:
Address:
Phone:
Contact Person:
E-Mail:

Georgia DOT Project: FY 17 Bridge Replacement – 071-0050-0
GDOT P.I. 0015524

DESIGN-BUILD
MEMORANDUM OF UNDERSTANDING
between the
Georgia Department of Transportation (hereafter the DEPARTMENT)
and
Windstream Communications (hereafter the OWNER)

Whereas GDOT, hereafter referred to as the DEPARTMENT proposes to undertake a design-build project hereafter referred to as PROJECT to replace the bridge on Doerun-Norman Park over Okapilco Creek, Colquitt County, Georgia by contract through competitive bidding procedures; and,

Whereas the DEPARTMENT will accomplish the PROJECT through a Design Consultant, Design Consultant Team and/or Contractor, hereafter referred to as CONTRACTOR; and the utility owner hereafter referred to as the OWNER, and

Whereas, where OWNER has property rights ("Prior Rights") at the location of the PROJECT, OWNER will provide written evidence as to said prior rights within the area and will provide written documentation of prior rights relating to any individual crossing or Utility Facility, at the location of the PROJECT; and

Whereas, OWNER acknowledges that, generally, absent a showing of prior rights, the costs of relocation, protection, removal, or adjustment performed by OWNER shall be borne by OWNER; and

Whereas, pursuant to O.C.G.A. § 32-6-170(b), DEPARTMENT is authorized to pay or participate in the payment of the costs of relocation, protection, or adjustment of OWNER'S facilities where DEPARTMENT has made the determination that (i) such payments are in the best interest of the public and necessary in order to expedite the staging of the design-build project; and (ii) the costs of the removal, relocation, protection, or adjustment of such facilities are included as part of the Contract between the Department and the Department's roadway contractor for the design-build project; and

1. Type of Utility
OWNER has the following utility facilities which may need to be adjusted or relocated as a result of the proposed PROJECT:

Type of facility or facilities of OWNER:
_____Domestic water mains and distribution lines and associated appurtenances
_____Sanitary Sewer facilities and/or Storm Drainage System
_____Electrical Distribution (overhead and underground) wires, poles, etc.
_____Electrical Transmission (overhead and underground) wires, poles, etc.
_____Natural Gas Distribution Facilities (underground)
_____Natural Gas Transmission Facilities (underground)
_____Petroleum Pipeline (underground)
__X__Telecommunications facilities and equipment
_____Cable TV facilities
_____Street Lighting
_____Internet Data Service
_____Other Facilities (Description) _____

2. New Utility Facilities Proposed (Betterment)

OWNER desires the following to be installed as new additional facilities within the PROJECT. Insert here or attach a detailed description of proposed new additional utility installations:

_____

_____

3. Assignment of Responsibilities for Design and Construction

This MEMORANDUM OF UNDERSTANDING and the following shall serve as a *basis* for assignment of responsibilities and costs for the DEPARTMENT, CONTRACTOR and the OWNER to enter into a Standard Utility Agreement (SUA) or Contract Item Agreement (CIA), if necessary, with OWNER once the PROJECT is awarded to the CONTRACTOR. For a PROJECT implementation, GDOT will not have in its possession exact costing plans to be utilized to determine exact locations of the removal, relocation, protection, or adjustment. However, Overhead/Subsurface Utility Engineering (SUE) investigations plans exist providing the best information and signifying the layout of known existing facilities. Please use these plans for developing the final determination of services as indicated below. The CONTRACTOR developed plans will be provided to the OWNER after the design build project is awarded by GDOT which shall be used by the CONTRACTOR as the final basis for the SUA or CIA. **Betterment costs will be the OWNER'S responsibility.**

NOTE: Water and Sewer Design and Construction relocation work put in the contract will automatically be accomplished by the DEPARTMENT'S CONTRACTOR. The UTILITY OWNER will still have design approval authority. (No Pre-Approved Contractor/Consultant List required, leave page 6 blank). If you are a Water & Sewer Utility and choose to put your relocation Design and Construction in the contract, please check Design and Construction under Option 2 under 3B. Owner's electing to perform their own design, at their own cost, please select design under 3C.

OWNER hereby intends to:

3A. OWNER, at the DEPARTMENT'S cost through an Agreement, will provide the following services for the properties for which it has established prior rights (Check to signify):

Design _____
Construction _____

3B. OWNER, at the CONTRACTOR'S cost, for any removal, relocation, protection, adjustment and/or design (Regardless of Prior Rights) will allow their facilities to be placed into the DEPARTMENT'S contract for the following services pursuant to O.C.G.A. § 32-6-170(b). The CONTRACTOR will add the removal, relocation, protection, materials, adjustment and/or design cost, excluding betterment, to the overall PROJECT's cost. (Check to signify):

Option 1: OWNER wants the work to be performed by the OWNER's pre-approved Design Consultants and/or Contractors.

Design _____
Construction _____

Option 2: OWNER wants the DEPARTMENT'S CONTRACTOR to perform the design and/or construction. (Check to signify):

Design _____
Construction _____ **If both are checked, please leave page 6 blank.**

As per this section, all work necessary for the removal, relocation, protection, or adjustment of the described utilities in accordance with the plans when approved shall be included in the project contract and accomplished by the CONTRACTOR except as follows (Check none or list any work items to be performed by the OWNER)

None _____

Excluded Items _____
_____
_____

Comments: _____
_____
_____
_____
_____
_____
_____

3C. OWNER, at OWNER'S cost, will provide the following services (Check to signify):

Design X
Construction X

The following is hereby mutually agreed to and understood by both parties:

1. The identification of existing facilities including preparation of Overhead/Subsurface Utility Engineering (SUE) investigations plans will be accomplished by the DEPARTMENT prior to award of the PROJECT and thereafter supplemented by the CONTRACTOR.
2. The CONTRACTOR shall coordinate reviews of the utility relocation information and obtain acceptance from the OWNER and DEPARTMENT when required. However; the OWNER shall apply for and obtain any required permits from the DEPARTMENT and perform any final design or proprietary design needed to administer its own relocation work if the work will not be included in the contract If the preliminary plans indicate that no conflict exists, and the OWNER concurs with this information, the OWNER shall provide a letter of "no conflict" to the CONTRACTOR.
3. After award of the PROJECT, the CONTRACTOR will research any claimed compensable property interest for each OWNER claiming prior rights under section 3A and present the findings to the DEPARTMENT and OWNER for approval. The plans and estimate for the utility work shall be subject to approval of both the DEPARTMENT and the OWNER prior to construction. If the OWNER chooses to perform it own relocations and the OWNER holds no property interest as stated above; the OWNER shall confirm in writing that the OWNER will relocate its own facilities at no cost to the DEPARTMENT or the CONTRACTOR.
4. All construction engineering and contract supervision shall be the responsibility of the DEPARTMENT and the CONTRACTOR to ensure that all utility work included in the contract is accomplished in accordance with the PROJECT's plans and specifications. The CONTRACTOR will consult with the OWNER before authorizing any changes or deviations which affect the OWNER's facility.
5. For utility work included in the contract, the CONTRACTOR shall ensure that the design/construction and installation of the OWNER'S facilities is performed by a contractor/design consultant pre-approved/registered with both the DEPARTMENT and the OWNER. For any work included in the contract, excluding water and sewer, the OWNER will provide a list of pre-approved/registered contractors/design consultants on page 6 of the MOU.
6. For Utility work included in the contract, the OWNER or the OWNER's Consultant shall have the right to visit and inspect the work at any time and advise the CONTRACTOR and the DEPARTMENT'S Engineer of any observed discrepancies or potential issues. The DEPARTMENT agrees to notify the OWNER when all utility work is completed and ready for final inspection by the OWNER.
7. Upon Maintenance Acceptance or Final Acceptance of the utility work included in the contract and upon certification by the DEPARTMENT'S Engineer and the OWNER that the work has been completed in accordance with the plans and specifications, the OWNER will accept the adjusted, relocated, and additional facilities and will thereafter operate and maintain said facilities located within the PROJECT right of way subject to the DEPARTMENT'S Utility Accommodations Policy and Standards Manual (UAM), current edition" and any agreements in effect without further cost to the DEPARTMENT or it's CONTRACTOR.
8. For the purpose of utility coordination, relocation and reimbursement matters, the OWNER shall cooperate with the CONTRACTOR in the same manner as if coordinating directly with the DEPARTMENT in accordance with the laws of the State of Georgia, the DEPARTMENT'S UAM and any agreements in effect between the DEPARTMENT and OWNER. The OWNER agrees to cooperate in good faith with the CONTRACTOR and to respond to all requests for information or meetings required to reach a resolution of any disputed items.
9. All Utility work included in the PROJECT's contract and Utility work completed by the OWNER that is reimbursed by the DEPARTMENT through an agreement shall be in accordance with the BUY AMERICA requirements of the Federal regulations (23 U.S.C. 313 and 23 CFR 635.410) all manufacturing processes for steel and iron products or predominantly of steel or iron (at least 90% steel or iron content) furnished for permanent incorporation into the work on this project shall occur in the United States. The only exception to

this requirement is the production of pig iron and the processing, pelletizing and reduction of iron ore, which may occur in another country. Other than there exceptions, all melting, rolling, extruding, machining, bending, grinding, drilling, coating, etc. must occur in the United States.

a. Products of steel include, but are not limited to, such products as structural steel piles, reinforcing steel, structural plate, steel culverts, and guardrail steel supports for signs, signals and luminaires. Products of iron include, but are not limited to, such products as cast iron frames and grates and ductile iron pipe. Coatings include, but are not limited to, the applications of epoxy, galvanizing and paint. The coating material is not limited to this clause, only the application process.

b. A Certificate of Compliance shall be furnished for steel and iron products as part of the backup information with the billing. The form for this certification entitled "Buy America Certificate of Compliance" is attached to this agreement as "Exhibit A." Records to be maintained by the Developer for this certification shall include a signed mill test report and a signed certification by each supplier, distributor, fabricator, and manufacturer that has handled the steel or iron product affirming that every process, including the application of a coating, performed on the steel or iron product has been carried out in the United States of America, except as allowed by this Section. The lack of these certifications will be justification for rejection of the steel and/or iron product or nonpayment of the work.

c. The requirements of said law and regulations do not prevent the use of miscellaneous steel or iron components, subcomponents and hardware necessary to encase, assemble and construct the above products, manufactured products that are not predominantly steel or iron or a minimal use of foreign steel and iron materials if the cost of such materials used does not exceed one-tenth of one percent (0.1%) of the total contract price or $2,500.00, whichever is greater.

The Memorandum of Understanding will be incorporated into the project contract by reference or Exhibit.

APPROVED FOR THE OWNER BY:

Stephen Barnan
(Signature)

3-29-2017
(Date)

Director - OSP
(Title)

APPROVED FOR THE DEPARTMENT BY:

Patrick [signature]
(Signature)

4/13/17
(Date)

STATE UTILITIES ADMINISTRATOR

Pre-Approved Contractor List

Company Name:
Address:
Phone:
Contact Person:
E-Mail:

Company Name:
Address:
Phone:
Contact Person:
E-Mail:

Company Name:
Address:
Phone:
Contact Person:
E-Mail:

Please provide a minimum of three.

Pre-Approved Design Consultant List

Company Name:
Address:
Phone:
Contact Person:
E-Mail:

Company Name:
Address:
Phone:
Contact Person:
E-Mail:

Company Name:
Address:
Phone:
Contact Person:
E-Mail:

Georgia DOT Project: FY 17 Bridge Replacement – 275-5003-0
GDOT P.I. 0015524

DESIGN-BUILD
MEMORANDUM OF UNDERSTANDING
between the
Georgia Department of Transportation (hereafter the DEPARTMENT)
and
Bellsouth Telecommunications, LLC d/b/a AT&T Georgia (hereafter the OWNER)

~~Whereas GDOT, hereafter referred to as the DEPARTMENT proposes to undertake a design-build project~~ hereafter referred to as PROJECT to replace the bridge on Reichertville Road over McKeever Slough Creek, Thomas County, Georgia by contract through competitive bidding procedures; and,

Whereas the DEPARTMENT will accomplish the PROJECT through a Design Consultant, Design Consultant Team and/or Contractor, hereafter referred to as CONTRACTOR; and the utility owner hereafter referred to as the OWNER, and

Whereas, where OWNER has property rights ("Prior Rights") at the location of the PROJECT, OWNER will provide written evidence as to said prior rights within the area and will provide written documentation of prior rights relating to any individual crossing or Utility Facility, at the location of the PROJECT; and

Whereas, OWNER acknowledges that, generally, absent a showing of prior rights, the costs of relocation, protection, removal, or adjustment performed by OWNER shall be borne by OWNER; and

Whereas, pursuant to O.C.G.A. § 32-6-170(b), DEPARTMENT is authorized to pay or participate in the payment of the costs of relocation, protection, or adjustment of OWNER'S facilities where DEPARTMENT has made the determination that (i) such payments are in the best interest of the public and necessary in order to expedite the staging of the design-build project; and (ii) the costs of the removal, relocation, protection, or adjustment of such facilities are included as part of the Contract between the Department and the Department's roadway contractor for the design-build project; and

1. Type of Utility
OWNER has the following utility facilities which may need to be adjusted or relocated as a result of the proposed PROJECT:

Type of facility or facilities of OWNER:
_____Domestic water mains and distribution lines and associated appurtenances
_____Sanitary Sewer facilities and/or Storm Drainage System
_____Electrical Distribution (overhead and underground) wires, poles, etc.
_____Electrical Transmission (overhead and underground) wires, poles, etc.
_____Natural Gas Distribution Facilities (underground)
_____Natural Gas Transmission Facilities (underground)
_____Petroleum Pipeline (underground)
____X__Telecommunications facilities and equipment
_____Cable TV facilities
_____Street Lighting
_____Internet Data Service
_____Other Facilities (Description) _____

2. New Utility Facilities Proposed (Betterment)

OWNER desires the following to be installed as new additional facilities within the PROJECT. Insert here or attach a detailed description of proposed new additional utility installations:

_____

_____

3. Assignment of Responsibilities for Design and Construction

This MEMORANDUM OF UNDERSTANDING and the following shall serve as a *basis* for assignment of responsibilities and costs for the DEPARTMENT, CONTRACTOR and the OWNER to enter into a Standard Utility Agreement (SUA) or Contract Item Agreement (CIA), if necessary, with OWNER once the PROJECT is awarded to the CONTRACTOR. For a PROJECT implementation, GDOT will not have in its possession exact costing plans to be utilized to determine exact locations of the removal, relocation, protection, or adjustment. However, Overhead/Subsurface Utility Engineering (SUE) investigations plans exist providing the best information and signifying the layout of known existing facilities. Please use these plans for developing the final determination of services as indicated below. The CONTRACTOR developed plans will be provided to the OWNER after the design build project is awarded by GDOT which shall be used by the CONTRACTOR as the final basis for the SUA or CIA. **Betterment costs will be the OWNER'S responsibility.**

NOTE: Water and Sewer Design and Construction relocation work put in the contract will automatically be accomplished by the DEPARTMENT'S CONTRACTOR. The UTILITY OWNER will still have design approval authority. (No Pre-Approved Contractor/Consultant List required, leave page 6 blank). If you are a Water & Sewer Utility and choose to put your relocation Design and Construction in the contract, please check Design and Construction under Option 2 under 3B. Owner's electing to perform their own design, at their own cost, please select design under 3C.

OWNER hereby intends to:

3A. OWNER, at the DEPARTMENT'S cost through an Agreement, will provide the following services for the properties for which it has established prior rights (Check to signify):

Design _____
Construction _____

3B. OWNER, at the CONTRACTOR'S cost, for any removal, relocation, protection, adjustment and/or design (Regardless of Prior Rights) will allow their facilities to be placed into the DEPARTMENT'S contract for the following services pursuant to O.C.G.A. § 32-6-170(b). The CONTRACTOR will add the removal, relocation, protection, materials, adjustment and/or design cost, excluding betterment, to the overall PROJECT's cost. (Check to signify):

Option 1: OWNER wants the work to be performed by the OWNER's pre-approved Design Consultants and/or Contractors.

Design _____
Construction _____

Option 2: OWNER wants the DEPARTMENT'S CONTRACTOR to perform the design and/or construction. (Check to signify):

Design ____
Construction ____ **If both are checked, please leave page 6 blank.**

As per this section, all work necessary for the removal, relocation, protection, or adjustment of the described utilities in accordance with the plans when approved shall be included in the project contract and accomplished by the CONTRACTOR except as follows (Check none or list any work items to be performed by the OWNER)

None _____

Excluded Items _____
_____
_____

Comments: _____
_____
_____
_____
_____
_____
_____

3C. OWNER, at OWNER'S cost, will provide the following services (Check to signify):

Design __X___
Construction ___X__

The following is hereby mutually agreed to and understood by both parties:

1. The identification of existing facilities including preparation of Overhead/Subsurface Utility Engineering (SUE) investigations plans will be accomplished by the DEPARTMENT prior to award of the PROJECT and thereafter supplemented by the CONTRACTOR.
2. The CONTRACTOR shall coordinate reviews of the utility relocation information and obtain acceptance from the OWNER and DEPARTMENT when required. However; the OWNER shall apply for and obtain any required permits from the DEPARTMENT and perform any final design or proprietary design needed to administer its own relocation work if the work will not be included in the contract If the preliminary plans indicate that no conflict exists, and the OWNER concurs with this information, the OWNER shall provide a letter of "no conflict" to the CONTRACTOR.
3. After award of the PROJECT, the CONTRACTOR will research any claimed compensable property interest for each OWNER claiming prior rights under section 3A and present the findings to the DEPARTMENT and OWNER for approval. The plans and estimate for the utility work shall be subject to approval of both the DEPARTMENT and the OWNER prior to construction. If the OWNER chooses to perform it own relocations and the OWNER holds no property interest as stated above; the OWNER shall confirm in writing that the OWNER will relocate its own facilities at no cost to the DEPARTMENT or the CONTRACTOR.
4. All construction engineering and contract supervision shall be the responsibility of the DEPARTMENT and the CONTRACTOR to ensure that all utility work included in the contract is accomplished in accordance with the PROJECT's plans and specifications. The CONTRACTOR will consult with the OWNER before authorizing any changes or deviations which affect the OWNER's facility.
5. For utility work included in the contract, the CONTRACTOR shall ensure that the design/construction and installation of the OWNER'S facilities is performed by a contractor/design consultant pre-approved/registered with both the DEPARTMENT and the OWNER. For any work included in the contract, excluding water and sewer, the OWNER will provide a list of pre-approved/registered contractors/design consultants on page 6 of the MOU.
6. For Utility work included in the contract, the OWNER or the OWNER's Consultant shall have the right to visit and inspect the work at any time and advise the CONTRACTOR and the DEPARTMENT'S Engineer of any observed discrepancies or potential issues. The DEPARTMENT agrees to notify the OWNER when all utility work is completed and ready for final inspection by the OWNER.
7. Upon Maintenance Acceptance or Final Acceptance of the utility work included in the contract and upon certification by the DEPARTMENT'S Engineer and the OWNER that the work has been completed in accordance with the plans and specifications, the OWNER will accept the adjusted, relocated, and additional facilities and will thereafter operate and maintain said facilities located within the PROJECT right of way subject to the DEPARTMENT'S Utility Accommodations Policy and Standards Manual (UAM), current edition" and any agreements in effect without further cost to the DEPARTMENT or it's CONTRACTOR.
8. For the purpose of utility coordination, relocation and reimbursement matters, the OWNER shall cooperate with the CONTRACTOR in the same manner as if coordinating directly with the DEPARTMENT in accordance with the laws of the State of Georgia, the DEPARTMENT'S UAM and any agreements in effect between the DEPARTMENT and OWNER. The OWNER agrees to cooperate in good faith with the CONTRACTOR and to respond to all requests for information or meetings required to reach a resolution of any disputed items.
9. All Utility work included in the PROJECT's contract and Utility work completed by the OWNER that is reimbursed by the DEPARTMENT through an agreement shall be in accordance with the BUY AMERICA requirements of the Federal regulations (23 U.S.C. 313 and 23 CFR 635.410) all manufacturing processes for steel and iron products or predominantly of steel or iron (at least 90% steel or iron content) furnished for

permanent incorporation into the work on this project shall occur in the United States. The only exception to this requirement is the production of pig iron and the processing, pelletizing and reduction of iron ore, which may occur in another country. Other than there exceptions, all melting, rolling, extruding, machining, bending, grinding, drilling, coating, etc. must occur in the United States.

a. Products of steel include, but are not limited to, such products as structural steel piles, reinforcing steel, structural plate, steel culverts, and guardrail steel supports for signs, signals and luminaires. Products of iron include, but are not limited to, such products as cast iron frames and grates and ductile iron pipe. Coatings include, but are not limited to, the applications of epoxy, galvanizing and paint. The coating material is not limited to this clause, only the application process.

b. A Certificate of Compliance shall be furnished for steel and iron products as part of the backup information with the billing. The form for this certification entitled "Buy America Certificate of Compliance" is attached to this agreement as "Exhibit A." Records to be maintained by the Developer for this certification shall include a signed mill test report and a signed certification by each supplier, distributor, fabricator, and manufacturer that has handled the steel or iron product affirming that every process, including the application of a coating, performed on the steel or iron product has been carried out in the United States of America, except as allowed by this Section. The lack of these certifications will be justification for rejection of the steel and/or iron product or nonpayment of the work.

c. The requirements of said law and regulations do not prevent the use of miscellaneous steel or iron components, subcomponents and hardware necessary to encase, assemble and construct the above products, manufactured products that are not predominantly steel or iron or a minimal use of foreign steel and iron materials if the cost of such materials used does not exceed one-tenth of one percent (0.1%) of the total contract price or $2,500.00, whichever is greater.

The Memorandum of Understanding will be incorporated into the project contract by reference or Exhibit.

APPROVED FOR THE OWNER BY:

(Signature) 4/03/2017 (Date)

(Title)

APPROVED FOR THE DEPARTMENT BY:

(Signature) 4/13/17 (Date)

STATE UTILITIES ADMINISTRATOR

Pre-Approved Contractor List

Company Name:
Address:
Phone:
Contact Person:
E-Mail:

Company Name:
Address:
Phone:
Contact Person:
E-Mail:

Company Name:
Address:
Phone:
Contact Person:
E-Mail:

Please provide a minimum of three.

Pre-Approved Design Consultant List

Company Name:
Address:
Phone:
Contact Person:
E-Mail:

Company Name:
Address:
Phone:
Contact Person:
E-Mail:

Company Name:
Address:
Phone:
Contact Person:
E-Mail:

Georgia DOT Project: FY 17 Bridges Statewide
GDOT P.I. 0015524

DESIGN-BUILD
MEMORANDUM OF UNDERSTANDING
between the
Georgia Department of Transportation (hereafter the DEPARTMENT)
and
Citizens Telephone (hereafter the OWNER)

Whereas GDOT, hereafter referred to as the DEPARTMENT proposes to undertake a design-build project hereafter referred to as PROJECT to replace the bridge on Weeks Road in Dooley County, Georgia by contract through competitive bidding procedures; and,

Whereas the DEPARTMENT will accomplish the PROJECT through a Design Consultant, Design Consultant Team and/or Contractor, hereafter referred to as CONTRACTOR; and the utility owner hereafter referred to as the OWNER, and

Whereas, where OWNER has property rights ("Prior Rights") at the location of the PROJECT, OWNER will provide written evidence as to said prior rights within the area and will provide written documentation of prior rights relating to any individual crossing or Utility Facility, at the location of the PROJECT; and

Whereas, OWNER acknowledges that, generally, absent a showing of prior rights, the costs of relocation, protection, removal, or adjustment performed by OWNER shall be borne by OWNER; and

Whereas, pursuant to O.C.G.A. § 32-6-170(b), DEPARTMENT is authorized to pay or participate in the payment of the costs of relocation, protection, or adjustment of OWNER'S facilities where DEPARTMENT has made the determination that (i) such payments are in the best interest of the public and necessary in order to expedite the staging of the design-build project; and (ii) the costs of the removal, relocation, protection, or adjustment of such facilities are included as part of the Contract between the Department and the Department's roadway contractor for the design-build project; and

1. Type of Utility
OWNER has the following utility facilities which may need to be adjusted or relocated as a result of the proposed PROJECT:

Type of facility or facilities of OWNER:
_____Domestic water mains and distribution lines and associated appurtenances
_____Sanitary Sewer facilities and/or Storm Drainage System
_____Electrical Distribution (overhead and underground) wires, poles, etc.
_____Electrical Transmission (overhead and underground) wires, poles, etc.
_____Natural Gas Distribution Facilities (underground)
_____Natural Gas Transmission Facilities (underground)
_____Petroleum Pipeline (underground)
__X__Telecommunications facilities and equipment
_____Cable TV facilities
_____Street Lighting
_____Internet Data Service
_____Other Facilities (Description) _____

2. New Utility Facilities Proposed (Betterment)

OWNER desires the following to be installed as new additional facilities within the PROJECT. Insert here or attach a detailed description of proposed new additional utility installations:

N/A

3. Assignment of Responsibilities for Design and Construction

This MEMORANDUM OF UNDERSTANDING and the following shall serve as a *basis* for assignment of responsibilities and costs for the DEPARTMENT, CONTRACTOR and the OWNER to enter into a Standard Utility Agreement (SUA) or Contract Item Agreement (CIA), if necessary, with OWNER once the PROJECT is awarded to the CONTRACTOR. For a PROJECT implementation, GDOT will not have in its possession exact costing plans to be utilized to determine exact locations of the removal, relocation, protection, or adjustment. However, Overhead/Subsurface Utility Engineering (SUE) investigations plans exist providing the best information and signifying the layout of known existing facilities. Please use these plans for developing the final determination of services as indicated below. The CONTRACTOR developed plans will be provided to the OWNER after the design build project is awarded by GDOT which shall be used by the CONTRACTOR as the final basis for the SUA or CIA. **Betterment costs will be the OWNER'S responsibility.**

NOTE: Water and Sewer Design and Construction relocation work put in the contract will automatically be accomplished by the DEPARTMENT'S CONTRACTOR. The UTILITY OWNER will still have design approval authority. (No Pre-Approved Contractor/Consultant List required, leave page 6 blank). If you are a Water & Sewer Utility and choose to put your relocation Design and Construction in the contract, please check Design and Construction under Option 2 under 3B. Owner's electing to perform their own design, at their own cost, please select design under 3C.

OWNER hereby intends to:

3A. OWNER, at the DEPARTMENT'S cost through an Agreement, will provide the following services for the properties for which it has established prior rights (Check to signify):

Design _____
Construction _____
_____

3B. OWNER, at the CONTRACTOR'S cost, for any removal, relocation, protection, adjustment and/or design (Regardless of Prior Rights) will allow their facilities to be placed into the DEPARTMENT'S contract for the following services pursuant to O.C.G.A. § 32-6-170(b). The CONTRACTOR will add the removal, relocation, protection, materials, adjustment and/or design cost, excluding betterment, to the overall PROJECT's cost. (Check to signify):

Option 1: OWNER wants the work to be performed by the OWNER's pre-approved Design Consultants and/or Contractors.

Design _____
Construction _____

~~**Option 2: OWNER wants the DEPARTMENT'S CONTRACTOR to perform the design and/or construction. (Check to signify):**~~

Design ____
Construction ____ **If both are checked, please leave page 6 blank.**

As per this section, all work necessary for the removal, relocation, protection, or adjustment of the described utilities in accordance with the plans when approved shall be included in the project contract and accomplished by the CONTRACTOR except as follows (Check none or list any work items to be performed by the OWNER)

None _____

Excluded Items _____
_____
_____

Comments: If relocation of Citizens Telephone 25 pair copper cable is required, Citizens Telephone Co. will purchase all required materials, will perform any required design and perform any required relocation construction as defined below in 3C.

3C. OWNER, at OWNER'S cost, will provide the following services (Check to signify):

Design __X__
Construction __X__

The following is hereby mutually agreed to and understood by both parties:

1. The identification of existing facilities including preparation of Overhead/Subsurface Utility Engineering (SUE) investigations plans will be accomplished by the DEPARTMENT prior to award of the PROJECT and thereafter supplemented by the CONTRACTOR.

2. The CONTRACTOR shall coordinate reviews of the utility relocation information and obtain acceptance from the OWNER and DEPARTMENT when required. However; the OWNER shall apply for and obtain any required permits from the DEPARTMENT and perform any final design or proprietary design needed to administer its own relocation work if the work will not be included in the contract If the preliminary plans indicate that no conflict exists, and the OWNER concurs with this information, the OWNER shall provide a letter of "no conflict" to the CONTRACTOR.

3. After award of the PROJECT, the CONTRACTOR will research any claimed compensable property interest for each OWNER claiming prior rights under section 3A and present the findings to the DEPARTMENT and OWNER for approval. The plans and estimate for the utility work shall be subject to approval of both the DEPARTMENT and the OWNER prior to construction. If the OWNER chooses to perform its own relocations and the OWNER holds no property interest as stated above; the OWNER shall confirm in writing that the OWNER will relocate its own facilities at no cost to the DEPARTMENT or the CONTRACTOR.

4. All construction engineering and contract supervision shall be the responsibility of the DEPARTMENT and the CONTRACTOR to ensure that all utility work included in the contract is accomplished in accordance with the PROJECT's plans and specifications. The CONTRACTOR will consult with the OWNER before authorizing any changes or deviations which affect the OWNER's facility.

5. For utility work included in the contract, the CONTRACTOR shall ensure that the design/construction and installation of the OWNER'S facilities is performed by a contractor/design consultant pre-approved/registered with both the DEPARTMENT and the OWNER. For any work included in the contract, excluding water and sewer, the OWNER will provide a list of pre-approved/registered contractors/design consultants on page 6 of the MOU.

6. For Utility work included in the contract, the OWNER or the OWNER's Consultant shall have the right to visit and inspect the work at any time and advise the CONTRACTOR and the DEPARTMENT'S Engineer of any observed discrepancies or potential issues. The DEPARTMENT agrees to notify the OWNER when all utility work is completed and ready for final inspection by the OWNER.

7. Upon Maintenance Acceptance or Final Acceptance of the utility work included in the contract and upon certification by the DEPARTMENT'S Engineer and the OWNER that the work has been completed in accordance with the plans and specifications, the OWNER will accept the adjusted, relocated, and additional facilities and will thereafter operate and maintain said facilities located within the PROJECT right of way subject to the DEPARTMENT'S Utility Accommodations Policy and Standards Manual (UAM), current edition" and any agreements in effect without further cost to the DEPARTMENT or it's CONTRACTOR.

8. For utility coordination, relocation and reimbursement matters, the OWNER shall cooperate with the CONTRACTOR in the same manner as if coordinating directly with the DEPARTMENT in accordance with the laws of the State of Georgia, the DEPARTMENT'S UAM and any agreements in effect between the DEPARTMENT and OWNER. The OWNER agrees to cooperate in good faith with the CONTRACTOR and to respond to all requests for information or meetings required to reach a resolution of any disputed items.

9. All Utility work included in the PROJECT's contract and Utility work completed by the OWNER that is reimbursed by the DEPARTMENT through an agreement shall be in accordance with the BUY AMERICA requirements of the Federal regulations (23 U.S.C. 313 and 23 CFR 635.410) all manufacturing processes for steel and iron products or predominantly of steel or iron (at least 90% steel or iron content) furnished for

permanent incorporation into the work on this project shall occur in the United States. The only exception to this requirement is the production of pig iron and the processing, pelletizing and reduction of iron ore, which may occur in another country. Other than these exceptions, all melting, rolling, extruding, machining, bending, grinding, drilling, coating, etc. must occur in the United States.

a. Products of steel include, but are not limited to, such products as structural steel piles, reinforcing steel, structural plate, steel culverts, and guardrail steel supports for signs, signals and luminaires. Products of iron include, but are not limited to, such products as cast iron frames and grates and ductile iron pipe. Coatings include, but are not limited to, the applications of epoxy, galvanizing and paint. The coating material is not limited to this clause, only the application process.

b. A Certificate of Compliance shall be furnished for steel and iron products as part of the backup information with the billing. The form for this certification entitled "Buy America Certificate of Compliance" is attached to this agreement as "Exhibit A." Records to be maintained by the Developer for this certification shall include a signed mill test report and a signed certification by each supplier, distributor, fabricator, and manufacturer that has handled the steel or iron product affirming that every process, including the application of a coating, performed on the steel or iron product has been carried out in the United States of America, except as allowed by this Section. The lack of these certifications will be justification for rejection of the steel and/or iron product or nonpayment of the work.

c. The requirements of said law and regulations do not prevent the use of miscellaneous steel or iron components, subcomponents and hardware necessary to encase, assemble and construct the above products, manufactured products that are not predominantly steel or iron or a minimal use of foreign steel and iron materials if the cost of such materials used does not exceed one-tenth of one percent (0.1%) of the total contract price or $2,500.00, whichever is greater.

The Memorandum of Understanding will be incorporated into the project contract by reference or Exhibit.

APPROVED FOR THE OWNER BY:

Mike Brady — 3-15-2017
(Signature) (Date)

OSP MGR.
(Title)

APPROVED FOR THE DEPARTMENT BY:

Peter D. Mc — 4/13/17
(Signature) (Date)

STATE UTILITIES ADMINISTRATOR

Pre-Approved Contractor List

Company Name:
Address:
Phone:
Contact Person:
E-Mail:

Company Name:
Address:
Phone:
Contact Person:
E-Mail:

Company Name:
Address:
Phone:
Contact Person:
E-Mail:

Please provide a minimum of three.

Pre-Approved Design Consultant List

Company Name:
Address:
Phone:
Contact Person:
E-Mail:

Company Name:
Address:
Phone:
Contact Person:
E-Mail:

Company Name:
Address:
Phone:
Contact Person:
E-Mail:

Georgia DOT Project: FY 17 Bridges Statewide
GDOT P.I. 0015524

DESIGN-BUILD
MEMORANDUM OF UNDERSTANDING

between the
Georgia Department of Transportation (hereafter the DEPARTMENT)
and
Middle Georgia EMC (hereafter the OWNER)

Whereas GDOT, hereafter referred to as the DEPARTMENT proposes to undertake a design-build project hereafter referred to as PROJECT to replace the bridge on Weeks Road in Dooly County, Georgia by contract through competitive bidding procedures; and,

Whereas the DEPARTMENT will accomplish the PROJECT through a Design Consultant, Design Consultant Team and/or Contractor, hereafter referred to as CONTRACTOR; and the utility owner hereafter referred to as the OWNER, and

Whereas, where OWNER has property rights ("Prior Rights") at the location of the PROJECT, OWNER will provide written evidence as to said prior rights within the area and will provide written documentation of prior rights relating to any individual crossing or Utility Facility, at the location of the PROJECT; and

Whereas, OWNER acknowledges that, generally, absent a showing of prior rights, the costs of relocation, protection, removal, or adjustment performed by OWNER shall be borne by OWNER; and

Whereas, pursuant to O.C.G.A. § 32-6-170(b), DEPARTMENT is authorized to pay or participate in the payment of the costs of relocation, protection, or adjustment of OWNER'S facilities where DEPARTMENT has made the determination that (i) such payments are in the best interest of the public and necessary in order to expedite the staging of the design-build project; and (ii) the costs of the removal, relocation, protection, or adjustment of such facilities are included as part of the Contract between the Department and the Department's roadway contractor for the design-build project; and

1. Type of Utility
OWNER has the following utility facilities which may need to be adjusted or relocated as a result of the proposed PROJECT:

Type of facility or facilities of OWNER:
_____Domestic water mains and distribution lines and associated appurtenances
_____Sanitary Sewer facilities and/or Storm Drainage System
_X___Electrical Distribution (overhead and underground) wires, poles, etc.
_____Electrical Transmission (overhead and underground) wires, poles, etc.
_____Natural Gas Distribution Facilities (underground)
_____Natural Gas Transmission Facilities (underground)
_____Petroleum Pipeline (underground)
_____Telecommunications facilities and equipment
_____Cable TV facilities
_____Street Lighting
_____Internet Data Service
_____Other Facilities (Description) _____

2. New Utility Facilities Proposed (Betterment)

OWNER desires the following to be installed as new additional facilities within the PROJECT. Insert here or attach a detailed description of proposed new additional utility installations:

_____

_____

3. Assignment of Responsibilities for Design and Construction

This MEMORANDUM OF UNDERSTANDING and the following shall serve as a *basis* for assignment of responsibilities and costs for the DEPARTMENT, CONTRACTOR and the OWNER to enter into a Standard Utility Agreement (SUA) or Contract Item Agreement (CIA), if necessary, with OWNER once the PROJECT is awarded to the CONTRACTOR. For a PROJECT implementation, GDOT will not have in its possession exact costing plans to be utilized to determine exact locations of the removal, relocation, protection, or adjustment. However, Overhead/Subsurface Utility Engineering (SUE) investigations plans exist providing the best information and signifying the layout of known existing facilities. Please use these plans for developing the final determination of services as indicated below. The CONTRACTOR developed plans will be provided to the OWNER after the design build project is awarded by GDOT which shall be used by the CONTRACTOR as the final basis for the SUA or CIA. **Betterment costs will be the OWNER'S responsibility.**

NOTE: Water and Sewer Design and Construction relocation work put in the contract will automatically be accomplished by the DEPARTMENT'S CONTRACTOR. The UTILITY OWNER will still have design approval authority. (No Pre-Approved Contractor/Consultant List required, leave page 6 blank). If you are a Water & Sewer Utility and choose to put your relocation Design and Construction in the contract, please check Design and Construction under Option 2 under 3B. Owner's electing to perform their own design, at their own cost, please select design under 3C.

OWNER hereby intends to:

3A. OWNER, at the DEPARTMENT'S cost through an Agreement, will provide the following services for the properties for which it has established prior rights (Check to signify):

Design _____
Construction _____

3B. OWNER, at the CONTRACTOR'S cost, for any removal, relocation, protection, adjustment and/or design (Regardless of Prior Rights) will allow their facilities to be placed into the DEPARTMENT'S contract for the following services pursuant to O.C.G.A. § 32-6-170(b). The CONTRACTOR will add the removal, relocation, protection, materials, adjustment and/or design cost, excluding betterment, to the overall PROJECT's cost. (Check to signify):

Option 1: OWNER wants the work to be performed by the OWNER's pre-approved Design Consultants and/or Contractors.

Design ___X__
Construction __X___

~~**Option 2: OWNER wants the DEPARTMENT'S CONTRACTOR to perform the design and/or construction. (Check to signify):**~~

Design ____
Construction ____ **If both are checked, please leave page 6 blank.**

As per this section, all work necessary for the removal, relocation, protection, or adjustment of the described utilities in accordance with the plans when approved shall be included in the project contract and accomplished by the CONTRACTOR except as follows (Check none or list any work items to be performed by the OWNER)

None _____

Excluded Items _____
_____
_____

Comments: _____
_____
_____
_____
_____
_____
_____

3C. OWNER, at OWNER'S cost, will provide the following services (Check to signify):

Design _____
Construction _____

The following is hereby mutually agreed to and understood by both parties:

1. The identification of existing facilities including preparation of Overhead/Subsurface Utility Engineering (SUE) investigations plans will be accomplished by the DEPARTMENT prior to award of the PROJECT and thereafter supplemented by the CONTRACTOR.
2. The CONTRACTOR shall coordinate reviews of the utility relocation information and obtain acceptance from the OWNER and DEPARTMENT when required. However; the OWNER shall apply for and obtain any required permits from the DEPARTMENT and perform any final design or proprietary design needed to administer its own relocation work if the work will not be included in the contract If the preliminary plans indicate that no conflict exists, and the OWNER concurs with this information, the OWNER shall provide a letter of "no conflict" to the CONTRACTOR.
3. After award of the PROJECT, the CONTRACTOR will research any claimed compensable property interest for each OWNER claiming prior rights under section 3A and present the findings to the DEPARTMENT and OWNER for approval. The plans and estimate for the utility work shall be subject to approval of both the DEPARTMENT and the OWNER prior to construction. If the OWNER chooses to perform it own relocations and the OWNER holds no property interest as stated above; the OWNER shall confirm in writing that the OWNER will relocate its own facilities at no cost to the DEPARTMENT or the CONTRACTOR.
4. All construction engineering and contract supervision shall be the responsibility of the DEPARTMENT and the CONTRACTOR to ensure that all utility work included in the contract is accomplished in accordance with the PROJECT's plans and specifications. The CONTRACTOR will consult with the OWNER before authorizing any changes or deviations which affect the OWNER's facility.
5. For utility work included in the contract, the CONTRACTOR shall ensure that the design/construction and installation of the OWNER'S facilities is performed by a contractor/design consultant pre-approved/registered with both the DEPARTMENT and the OWNER. For any work included in the contract, excluding water and sewer, the OWNER will provide a list of pre-approved/registered contractors/design consultants on page 6 of the MOU.
6. For Utility work included in the contract, the OWNER or the OWNER's Consultant shall have the right to visit and inspect the work at any time and advise the CONTRACTOR and the DEPARTMENT'S Engineer of any observed discrepancies or potential issues. The DEPARTMENT agrees to notify the OWNER when all utility work is completed and ready for final inspection by the OWNER.
7. Upon Maintenance Acceptance or Final Acceptance of the utility work included in the contract and upon certification by the DEPARTMENT'S Engineer and the OWNER that the work has been completed in accordance with the plans and specifications, the OWNER will accept the adjusted, relocated, and additional facilities and will thereafter operate and maintain said facilities located within the PROJECT right of way subject to the DEPARTMENT'S Utility Accommodations Policy and Standards Manual (UAM), current edition" and any agreements in effect without further cost to the DEPARTMENT or it's CONTRACTOR.
8. For the purpose of utility coordination, relocation and reimbursement matters, the OWNER shall cooperate with the CONTRACTOR in the same manner as if coordinating directly with the DEPARTMENT in accordance with the laws of the State of Georgia, the DEPARTMENT'S UAM and any agreements in effect between the DEPARTMENT and OWNER. The OWNER agrees to cooperate in good faith with the CONTRACTOR and to respond to all requests for information or meetings required to reach a resolution of any disputed items.
9. All Utility work included in the PROJECT's contract and Utility work completed by the OWNER that is reimbursed by the DEPARTMENT through an agreement shall be in accordance with the BUY AMERICA requirements of the Federal regulations (23 U.S.C. 313 and 23 CFR 635.410) all manufacturing processes for steel and iron products or predominantly of steel or iron (at least 90% steel or iron content) furnished for permanent incorporation into the work on this project shall occur in the United States. The only exception to

this requirement is the production of pig iron and the processing, pelletizing and reduction of iron ore, which may occur in another country. Other than there exceptions, all melting, rolling, extruding, machining, bending, grinding, drilling, coating, etc. must occur in the United States.

a. Products of steel include, but are not limited to, such products as structural steel piles, reinforcing steel, structural plate, steel culverts, and guardrail steel supports for signs, signals and luminaires. Products of iron include, but are not limited to, such products as cast iron frames and grates and ductile iron pipe. Coatings include, but are not limited to, the applications of epoxy, galvanizing and paint. The coating material is not limited to this clause, only the application process.

b. A Certificate of Compliance shall be furnished for steel and iron products as part of the backup information with the billing. The form for this certification entitled "Buy America Certificate of Compliance" is attached to this agreement as "Exhibit A." Records to be maintained by the Developer for this certification shall include a signed mill test report and a signed certification by each supplier, distributor, fabricator, and manufacturer that has handled the steel or iron product affirming that every process, including the application of a coating, performed on the steel or iron product has been carried out in the United States of America, except as allowed by this Section. The lack of these certifications will be justification for rejection of the steel and/or iron product or nonpayment of the work.

c. The requirements of said law and regulations do not prevent the use of miscellaneous steel or iron components, subcomponents and hardware necessary to encase, assemble and construct the above products, manufactured products that are not predominantly steel or iron or a minimal use of foreign steel and iron materials if the cost of such materials used does not exceed one-tenth of one percent (0.1%) of the total contract price or $2,500.00, whichever is greater.

The Memorandum of Understanding will be incorporated into the project contract by reference or Exhibit.

APPROVED FOR THE OWNER BY:

Mike McGee — 3-9-17

(Mike McGee) (Date)

(Sr. Vice President)

APPROVED FOR THE DEPARTMENT BY:

(Signature) 4/13/17

(Date)

STATE UTILITIES ADMINISTRATOR

Pre-Approved Contractor List

Company Name: Pike
Address: 100 Pike Way, P.O. Box 868, Mount Airy, NC 27030
Phone: 912-258-0645
Contact Person: Barry McCarty
E-Mail:

Company Name: Sumter Utilities
Address: 1151 North Pike West, Sumter, SC 29151
Phone: 803-469-8585
Contact Person:
E-Mail:

~~Company Name: Musgrove Construction~~
Address 8708 U.S. 90 Live Oak, Florida 32060
Phone: 386-362-7048
Contact Person:
E-Mail: tsmith112@musgroveinc.com

Please provide a minimum of three.

Pre-Approved Design Consultant List

Company Name: McLean Engineering
Address: 815 S Main St. Moultrie Ga 31768
Phone: 229-985-1148
Contact Person: Todd Taylor
E-Mail:

Company Name: Power Services
Address: 1616 E. Millbrook Road, Raleigh, NC
Phone: 919-256-5900
Contact Person: Stuart Griffin – 478-955-2255
E-Mail:

Company Name: Patterson & Dewar Engineers, Inc
Address: 850 Center Way, Norcross, Ga 30071
Phone: 770-453-1410
Contact Person:
E-Mail:

Georgia Department of Transportation

Technical Provisions

For

Design-Build Agreement

P.I. No. 0015524

FY 17 Bridge Replacement Project

Attachment 6-2

UTILITY INSURANCE REQUIREMENTS AND

SPECIAL PROVISIONS

Special Provision Protection of Utility Interest

SP 660 Sewer

SP 663 Electric Transmission Systems

SP 664 Georgia Power

SP 665 Gas Distribution Systems

SP 670 Water

SP 950 Telecommunication Systems

SP 951 Cable Television Systes

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

SPECIAL PROVISION

PROJECT No.:
P.I. No.: 0015524
County: Dodge, Dooly, Colquitt, Quitman, Echols, Thomas

PROTECTION OF UTILITY INTERESTS

XYZ Utility Owner

XYZ Utility Owner is the owner and operator (also herein after referred to as Facility Owner) of a [Facility Size and Type] and/or appurtenant facilities within the project along [Project Description] in [ABC] County, Georgia.

All reference to liability, indemnification, insurance, etc. in this special provision shall apply only to those [Facility Type] located in the required right-of-way areas from station [000+00] to station [000+00] along [Route], these areas having been acquired by the Department.

The contractor shall and does hereby agree to indemnify, save harmless and defend The Facility Owner from the payment of any sum of money to any person whomsoever on account of claims or suits growing out of injuries to persons, including death, or damage to property caused by the contractor, his employees, agents or subcontractors or in any way attributable to the performance and prosecution of the work herein contracted for, including (but without limiting the generality of the foregoing), all claims for injuries to persons or damage to property, liens, garnishments, attachments, claims, suits, costs, attorney's fees, costs of investigation and of defense.

The contractor hereby waives and relinquishes any right of subrogation it might have against the Facility Owner under the provisions of the Workmen's Compensation Act of Georgia or of any other State on account of any injury to its employees or sub-contractor caused in whole or in part by The Facility Owner's transmission facilities. The contractor further agrees that it will require its workmen's compensation insurer, if any, to likewise waive and relinquish such subrogation rights.

I. Insurance

A. In addition to any other forms of insurance or bonds required under the terms of the contract and specification, the contractor will be required to furnish and maintain policies of insurance covering:

(1) The legal liability of the contractor, and his sub-contractors under the Georgia Workmen's Compensation Act for claims for personal injuries and death to employees engaged in the work.

(2) The legal liability (including contractual) of the contractor, and his sub-contractors who may be engaged in the work, for claims of damages for personal injuries or for death resulting therefrom arising out of the work to be performed under this contract by the contractor, or his sub-contractors, to persons other than employees of the contractor or sub-contractors engaged in the work included in this contract in an amount not less than:

$1,000,000 for any one person
$2,000,000 for any one accident

(3) The legal liability (including contractual) of the contractor, and his sub-contractors who may be engaged in this work, to pay claims for damages to property belonging to others than such contractor, or his sub-contractors, in the amount not less than:

$1,000,000 for any one accident

B. All of the aforementioned insurance shall be placed with an insurance company which is licensed to do business in the State of Georgia and shall be endorsed to cover the liability assumed by the contractor under the provisions of this contract.

(1) It is understood, however, that the provisions requiring the contractor to carry said insurance shall not be construed as in any manner waiving or restricting the liability of the contractor pursuant to the terms hereof which may not be insured under said insurance policies above required.

(2) As evidence of this insurance, and prior to the beginning of any work in connection with this contract, the contractor shall submit to the department of transportation, State of Georgia, and the Facility Owner a certificate providing the above coverage and which certifies that the said policies have been properly endorsed to meet the above requirements and that the facility owner is named as additional insured.

C. If any part of the work is sublet, similar insurance and evidence thereof, in the same amounts as required of the prime contractor, shall be provided by or in behalf of the sub-

contractor to cover his operations, endorsements to the prime contractor's policies specifically naming sub-contractors and describing their operations will be acceptable for this purpose.

D. All insurance hereinbefore specified shall be carried until all work required to be performed under the terms of the contract has been satisfactorily completed as evidenced by the formal acceptance by the State. Insuring companies may cancel insurance by permission of the State, The Facility Owner, or on thirty (30) days written notice to the Department and The Facility Owner as follows:

Notice to:
[Title]
[Facility Owner]
[123 Unknown Street]
[City, State Zip Code]
Copy notice to:
State Utilities Engineer
Georgia Department of Transportation
One Georgia Center
600 W. Peachtree St., 10th Floor
Atlanta, Georgia 30308

II. **Failure to comply**

In the event of cancellation or lapse of insurance policy:

The Facility Owner may require that the contractor vacate the aforementioned Facility Owner's right-of-way or easement area.

The highway engineer may withhold all monies due the contractor on monthly statements.

Any such orders shall remain in effect until the contractor has remedied the situation to the satisfaction of the Facility Owner's representative and the highway engineer.

III. **Payment for cost of compliance:**

No separate payment will be made for any extra cost incurred on account of compliance with this special provision. All such cost shall be included in prices bid for other items of the work.

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

SPECIAL PROVISION

PROJECT: FY 17 Bridge Replacement

COUNTY: Dodge, Dooly, Colquitt, Quitman, Echols, Thomas

P.I.:0015524

Section 660—Sanitary Sewers

Delete Section 660 and substitute the following:

660.1 General Description

This Work consists of furnishing materials, labor, tools, equipment, and other items necessary for installing, removing, abandoning, relocating, and adjusting sanitary sewer and force main systems and appurtenances to the Plans and Specifications.

660.1.01 Definitions

A. General Provisions 101 through 150

B. The term "The Facility Owner" shall be understood to mean "place utility company name" or "add if more than one company".

C. The term "Project Manager" shall mean the authorized individual having the authority to give instructions pertaining to the work and to approve or reject the work. The "Project Manager" shall not however be authorized to revoke, alter, enlarge, relax, or release any requirements of the Contract, Plans, and Specifications, nor shall they act as an agent for the Contractor. All Contract items pertaining to the Utility Owner shall be coordinated with the Georgia Department of Transportation's (GDOT) Project Coordinator and the Utility Owner.

660.1.02 Related References

A. Standard Specifications

Section 104—Scope of Work
Section 107—Legal Regulations and Responsibility to the Public
Section 108—Prosecution and Progress
Section 205—Roadway Excavation
Section 207—Excavation and Backfill for Minor Structures
Section 400—Hot Mix Asphaltic Concrete Construction
Section 444—Sawed Joints in Existing Pavements
Section 500—Concrete Structures
Section 600—Controlled Low Strength Flowable Fill

Section 615—Jack or Boring Pipe

Section 611—Relaying, Reconstructing, or Adjusting to Grade of Miscellaneous Roadway Structures

Section 668—Miscellaneous Drainage Structures

Section 801—Fine Aggregate

Section 810—Roadway Materials

B. Related Documents

1. General Provisions 101 through 150.
2. All products supplied and all work performed shall be in accordance with The Facility Owner's Standard Specifications, applicable standards from American Society for Testing and Material (ASTM), American Water Works Association (AWWA), American National Standards Institute (ANSI), GDOT Utility Accommodation Policy and Standards, and the Georgia Environmental Protection Division (EPD) Guidelines for Sewage Collection Systems. Latest revisions of all standards shall apply.

660.1.03 Submittals

A. General Provisions 101 through 150.

B. Refer to The Facility Owner's Standard Specifications, current published edition, for sanitary sewer utility submittal requirements. Copies of all submittals and documentation shall be submitted to GDOT, who shall distribute to the Utility Owner.

C. Shop Drawings / Product Data

1. Submit 6 copies of the following submittals to the GDOT Project Coordinator:
   a. Product data, including size, dimension, capacity, pressure rating, accessories, and special features, installation instructions, and operating characteristics for all proposed materials to show compliance with the requirements of this Special Provision.
   b. Test reports specified in the Quality Acceptance section of this Special Provision.
   c. Pipe manufacturer certification of compliance with specifications.
   d. Operation and maintenance literature, warranties, and other specified information.

D. Construction Record Documentation

1. The Contractor shall record on two set of utility as-built drawings that will record changes and deviations from the Contract Drawings in sizes, lines or grade. Record also the exact final horizontal and vertical locations of underground utilities and appurtenances to an accuracy of +/- 0.2ft, referenced to permanent surface improvements. Drawings shall utilize State Plane Coordinates and shall be legibly marked to record actual construction and submitted to the GDOT no later than 30 days after installation and prior to Final Acceptance of the Project. The Utility Owner shall determine if the utility record drawings are complete prior to Final Acceptance of the project.
2. Record Drawings shall be signed and sealed by a professional engineer or land surveyor registered in the State of Georgia.
3. Record Drawings shall also be submitted in digital format as indicated in accordance with the Department's current Electronic Utility File Guidelines.
4. Except for standard bound materials, bind all 8.5"x11" (A4) documentation, including 11" x 17" (A3) drawings folded to 8.5"x11" (A4), in logical groupings in loose-leaf binders of either the 3-ring or plastic slide-ring type. Permanently and appropriately label each such bound grouping of documentation.

660.1.04 Quality Assurance

A. The Contractor shall comply with applicable codes, ordinances, rules, regulations and laws of local, municipal, state or federal authorities having jurisdiction over the Project.

B. Furnish manufactured items, pipe, fittings, valves, service components, and appurtenances from manufacturers having regularly produced such items as specified herein which have proven satisfactory in actual service, over at least a 2-year period, or as approved by the GDOT and Utility Owner.

C. Regardless of tolerances permitted by industry standards specified herein, GDOT Project Manager may reject pipe or appurtenances at the manufacturing plant or project site which have cracks, chips, blisters, rough interior or exterior surface, evidence of structural weakness, joint defects, or other imperfections that might in the opinion of the Project Coordinators contribute to reduced functional capability, accelerated deterioration or reduced structural strength.

D. The Utility Owner and the Utility Owner's consultant shall have the right to visit and inspect the work at any time. The Utility Owner may also have an Inspector assigned to the project authorized to inspect portions or all of the utility work done and the preparation, fabrication, or manufacture of the materials to be used. The Utility Owner shall be able to advise GDOT Project Manager of any observed discrepancies or potential problems. The cost of these inspections shall be the responsibility of the Utility Owner.

E. GDOT shall notify the Utility Owner before authorizing any changes or deviations which might affect the Utility Owner's facilities. Contractor shall notify GDOT and Utility Owner a minimum of 24 hours prior to beginning work on utilities.

F. The Utility Owner shall be notified by GDOT Project Manager when all utility work is complete and ready for final inspection. The Utility Owner shall be invited to attend the final inspection and may provide a corrections list to GDOT Project Manager prior to the final inspection.

G. The Contractor shall verify the actual location and depth of all utilities prior to construction. All utilities and structures shall be protected during construction. Any damaged facilities shall be repaired or replaced at the Contractor's expense.

660.2 Materials

H. All materials provided shall be in conformance with the requirements and standards set forth in the The Facility Owner's specification document, current published edition.

660.2.01 Sanitary Sewer Piping Systems and Appurtenances

A. Ductile Iron Pipe and Fittings

Ductile iron pipe shall meet the latest edition of ANSI/AWWA C150/A21.50 and C151/A21.51 for the class and joint specified with a nominal laying length of 18 (5.5 m) to 20 feet (6 m). Joints for buried ductile iron pipe shall be mechanical or push-on joints. Unless specified otherwise in the Plans or The Facility Owner's Standard Specifications, ductile iron pipe diameters 12 inch (300 mm) or less shall be minimum Pressure Class 350, while pipe diameters greater than 12 inch (300 mm) shall be minimum Pressure Class 250.

1. Ductile iron pipe for the interior of structures and above ground installations shall be flanged. Flanges shall be ductile iron and shall be threaded-on flanges conforming to ANSI/AWWA C115/A21.15 or cast-on flanges conforming to ANSI/AWWA C110/A21.10. The minimum class thickness for ductile iron flanged pipe to be threaded is Class 53.
2. Interior surfaces of ductile iron pipe and fittings shall be ceramic epoxy lined. Epoxy lining shall be 40-mil nominal dry film thickness. The interior of the ductile iron pipe and fittings shall not have been lined with any substance prior to the application of the specified lining material and no coating shall have been applied to the first 6 inches (150 mm) of the exterior of the spigot ends. The lining shall be applied by a competent firm with a successful history of applying linings to the interior of ductile iron pipe and fittings. Surface preparation, lining of pipe, coating of bell sockets and spigot ends, number of coats, and touch up and repair shall be in accordance with the manufacturer's recommendations. The pipe or fitting manufacturer shall supply a certificate attesting that the applicator met the requirements of this specification; that the material used was as specified; that the linings have the nominal dry film thickness specified; and that the linings have no pinholes when tested with a nondestructive 2,500 volt test. Lined pipe and fittings shall be handled only from the outside of the pipe and fittings.
3. Ductile iron shall have an exterior asphaltic coating as specified in AWWA C151 for ductile iron pipe and AWWA C153/C110 for ductile iron fittings.
4. Buried ductile iron pipe and fittings shall be polyethylene encased at locations indicated on the Plans or as conditions warrant. Polyethylene encasement tubing shall be in accordance with ANSI/AWWA C105/A21.5 and ASTM A674 and shall have a minimum thickness of 8 mils. Polyethylene tubing shall be green in color to designate wastewater.
5. Fittings: Ductile iron fittings shall be epoxy coated and meet the requirements of ANSI/AWWA C153/A21.53 or

ANSI/AWWA C110 A21.10 with a minimum pressure rating of 250 psi. Pressure pipe fittings shall be restrained mechanical joint.

6. Mechanical Joint Fittings: Mechanical joints consisting of bell, socket, gland, gasket, bolts, and nuts shall conform to ANSI/AWWA C111/A21.11.
7. Push-On Joints: Push-on joints shall be designed in accordance with ANSI/AWWA C111/A21.11. Joint lubrication shall be as furnished by the manufacturer.
8. Rubber gasket joints for push-on or mechanical joints shall conform to the requirements of ANSI/AWWA C111/A21.11.
9. Restrained Joints: Restrained joints shall be provided as shown on the Plans and where required for thrust restraint. Restrained joints shall not require field welding or grooves cut into the pipe barrel for restraint. The restraining joints for mechanical joint fittings shall conform to the requirements of ANSI/AWWA C111/A21.11 with assembly in conformance with AWWA C600 and manufacturer's recommendations. Restrained joints for pipe shall be mechanical joints with ductile iron retainer or push-on type joints and shall have a minimum rated working pressure of 250 psi.
10. Mechanical joint retainer glands may be used to restrain mechanical joint pipe and fittings to the plain end of ductile iron pipe and fittings. Restrainer glands shall be manufactured of ductile iron per ASTM A536.
11. Corrosion-resistant bolts used with ductile iron joints shall be high-strength, low-alloy steel as specified in ANSI/AWWA C111/A21.11.
12. Welded Outlets: Welded outlets in ductile iron pipe shall be provided where specified and indicated on the Plans. Outlets shall be fabricated by welding sections of ductile iron pipe manufactured in accordance with ANSI/AWWA C151/A21.51. Welded outlet pipe shall be fabricated only by the pipe manufacturer. The minimum ductile iron pipe thickness for fabrication of welded outlet pipe shall be Thickness Class 53 for 4 inch to 54 inch (100 mm to 1350 mm) diameter pipe. All joints on welded-on branch outlets shall be provided in accordance with the latest revision of ANSI/AWWA C111/A21.11 and/or ANSI/AWWA C115/A21.15 as applicable. After the outlets are welded together and prior to finishing, the assembly shall be subjected to a 15 psi air test for leakage. The maximum size and laying length of the welded-on branch outlet shall be recommended by the pipe manufacturer and acceptable to the Utility Owner for the field conditions and connecting pipe or valve.

B. Polyvinyl Chloride (PVC) Pipe

1. C900 PVC pipe diameters 4-inch (100 mm) through 12-inch (300 mm) shall meet ANSI/AWWA C900 requirements, and shall be a minimum pipe dimension ratio (DR) 18, Pressure Class 235 psi. C905 PVC pipe diameters 14-inch (350 mm) and greater shall meet ANSI/AWWA C905 requirements, shall be DR 18 minimum, Pressure Class 235 psi. Pipe shall have a bell with an integral wall section with a factory installed, solid cross section elastomeric ring in accordance with ASTM F477.
2. PVC solid wall gravity sewer pipe shall be integral bell and spigot joint pipe, and shall comply with ASTM D3034 for pipes 15-inch (380 mm) and smaller, with minimum standard dimension ratio (SDR) 26. Pipes larger than 15-inch shall comply with ASTM F679 with the minimum thickness as specified in the Plans or The Facility Owner's specification document. Joints shall be of the bell and spigot gasketed type in accordance with ASTM D3212 and ASTM F477.
3. All PVC pipe shall be formulated for sunlight exposure and shall be green in color to designate wastewater.
4. PVC pipe shall have the same outside diameter (OD) as ductile iron pipe and be compatible for use with ductile iron fittings.
5. Fittings for PVC pipe 4 inches (100 mm) and larger shall be ductile iron mechanical joint and comply with the requirements set forth in the specifications for Ductile Iron Pipe and Fittings.
6. Restrained Joints: Restrained joints shall be provided as shown on the Plans and where required for thrust restraint. Restrained joints shall comply with the requirements set forth in the specifications for Ductile Iron Pipe and Fittings, with assembly in conformance with AWWA C600 and manufacturer's recommendations.

7. Unless specified otherwise in the Plans or The Facility Owner's specification document, 2-inch (50 mm) and 3-inch (80 mm) diameter PVC pipe shall conform to the requirements of ASTM D2241 Class 1120 or 1220 (SDR 21) with a working pressure rating of 200 psi with integral bell gasketed joints. Pipe is to be manufactured to IPS standard pipe equivalent outside diameters.
8. Schedule 80 PVC pipes smaller than 4-inch (100 mm) nominal diameter shall be in accordance with ASTM D1785. Schedule 80 pipe shall have threaded joints. Solvent cemented joints shall not be used. Threaded type fittings for Schedule 80 PVC pipe shall be in conformance with ASTM D2464. All threaded joints shall be watertight.
9. Flanges for Schedule 80 PVC pipe shall be rated for a 150 psi working pressure with ANSI B16.1 dimensions and bolting pattern. Flanges shall be connected to PVC piping with threaded joints in accordance with ASTM D2467 or ASTM 2464, respectively.

C. Fusible PVC Pipe

1. Fusible PVC pipe sizes 4-inch (100 mm) to 36-inch (900 mm) shall conform to AWWA C900/C905 as applicable and follow the dimension ratios (DR) set forth in the requirements listed for C900 PVC pipe.
2. Fusible PVC pipe shall be green in color to designate wastewater.
3. Fusible PVC pipe shall be extruded with plain ends. The ends shall be square to the pipe and free of any bevel or chamfer. There shall be no bell or gasket of any kind incorporated into the pipe.
4. Fusible PVC pipe shall be manufactured in a standard 40-foot nominal length or custom lengths as specified.
5. Joints shall be made by butt fusing sections of pipe with manufacturer-approved equipment.
6. Fittings shall be ductile iron mechanical joint and comply with the requirements set forth in the specifications for Ductile Iron Pipe and Fittings.

D. High Density Polyethylene (HDPE) Pipe

HDPE pipe sizes 4-inch (100 mm) and larger shall be a PE 4710/3408 high density, extra-high molecular weight polyethylene manufactured from first-quality high density polyethylene resin containing no additives, fillers, or extenders. The HDPE pipe shall have an ASTM D3350 cell classification of PE 445574C, and shall meet the requirements of AWWA C906, and shall be sized based upon the ductile iron pipe size (DIPS), outside diameter (OD) sizing system. HDPE shall be a minimum DR 11, pressure class 160 psi. For gravity sewer pipe, the DR of the pipe shall be as indicated in the Plans or The Facility Owner's Standard Specifications.

1. HDPE pipe shall be green or marked with a permanent green stripe to designate wastewater.
2. Joints shall be made by butt fusing sections of pipe with manufacturer-approved equipment.
3. Fittings shall be ductile iron mechanical joint meeting the requirements of ANSI/AWWA C110/A21.10 and ANSI/AWWA C111/A21.11.
4. The pipe shall have fusion welded restrainer ring, follower gland, and a 12-inch (300 mm) stainless steel insert for the mechanical joint connection.
5. HDPE sewer mains shall be properly sized utilizing the inside diameter of the nominal pipe diameter. If during construction HDPE is substituted for other pipe materials, the Contractor shall verify that the inside diameter of the HDPE is the same or larger than the inside diameter of the pipe originally specified.

E. Concrete Pipe

1. Concrete pipe for gravity sewers shall be epoxy lined, reinforced concrete bell and spigot pipe with type two cement and calcareous aggregate conforming to ASTM C76 for Wall C pipe. Pipe shall be supplied in lengths of at least eight feet (2.5 m).
2. Pipe shall have rubber gasket type joints with steel end rings conforming to ASTM C443. A rectangular groove shall be supplied in the spigot end to receive the rubber gasket, and it shall be so formed to a rectangular shape and confined on all four sides. Bell and spigot surfaces shall be accurately formed and smooth to provide a close sliding fit with a nominal clearance of 1/16-inch (1.5 mm).

3. Pipe shall not have cracks, blisters, imperfect surfaces, damaged ends, or damaged gasket grooves. Repaired or patched pipe or pipe with repaired or patched gasket grooves or shoulders shall not be used.
4. The testing of concrete pipe for crushing strength, absorption, hydrostatic requirements, and permeability shall be at the direction of the Utility Owner / GDOT Project Coordinators and shall be performed in accordance with ASTM C497.

F. Steel Casing Pipe

1. All materials, design, fabrication, handling, and testing of steel casing pipe shall conform to the requirements of ASTM A139, AWWA C200 and AWWA Manual M11 "Steel Pipe – A Guide for Design and Installation."
2. Steel casing pipe shall be new, smooth-wall, carbon steel pipe conforming to ASTM Specification A139, Grade B with minimum yield strength of 35,000 psi. Steel casings shall be used with the size, minimum thickness, length, and coating specified on the Plans or The Facility Owner's specification document.
3. Additional anti-corrosion measures, as specified by the manufacturer or indicated on the Plans, shall be provided at connectors, couplings, rollers, restraints, etc.
4. Unless specified otherwise in the Plans or The Facility Owner's specification document, casing pipe end seals shall consist of ⅛-inch (6 mm) thick flexible synthetic rubber boot with adjustable stainless steel banding straps. The annular space of the casing shall not be filled with concrete or grout.
5. Casing spacers shall consist of a stainless steel shell, PVC ribbed liner, and non-conducting separators to keep the carrier pipe from touching the casing pipe. Spacers shall be provided at a maximum of 10-foot intervals and within 2 feet (0.6 m) of the end of the casing pipe.

G. Cured-In-Place-Pipe (CIPP) Liners

1. CIPP liners shall be installed at the locations indicated on the Plans for the renovation of existing sanitary sewer pipes. The CIPP process shall consist of furnishing and inserting a resin-impregnated flexible tube within an existing sanitary sewer pipe and permanently forming the tube to the original conduit by curing with hot water under hydrostatic pressure or by a compressed air/stream combination.
2. CIPP pipeliner components shall be made from approved materials and manufactured in accordance with ASTM F1216, ASTM F1743, ASTM D5813, and ASTM D790.
3. CIPP tube shall meet the following criteria:
4. Made up of one or more layers of felt fabric
5. Meets or exceed ASTM F1216 or ASTM F1743, Section 5
6. Withstands installation pressure and is strong enough to bridge missing pipe sections where necessary.
7. Stretches to fit irregular pipe sections
8. After wetout (impregnating of the tube with resin), shall maintain a uniform thickness meeting or exceeding the design thickness when compressed at installation pressures
9. Sewn to a size fitting tightly within the internal circumference and length of the original pipe when installed and shall provide required allowance for circumferential stretching during inversion
10. Does not utilize overlapping layers of felt in longitudinal seams causing lumps in the final product
11. Utilizes an impermeable, flexible membrane coated on the outside layer of the tube prior to wetout to contain the resin and facilitate monitoring of resin saturation during the wetout procedure
12. Is homogenous across the entire wall thickness and contains no intermediate or encapsulated elastomeric layers
13. Does not utilize material in the tube causing delamination in the CIPP pipeliner
14. Seams in the tube are stronger than the non-seamed felt
15. Outside of the tube is marked for distance at regular intervals along its length. Marking intervals do not exceed 5 feet (1.5 meters) and include the Manufacturers name or identifying symbol.
16. CIPP resin system shall produce CIPP pipeliners which comply with the structural and chemical resistance requirements of this specification. Resin system shall be corrosion resistant, consist of a vinyl ester and catalyst system, and contain 5% or less resin filler. When properly cured within the tube composite, the resin shall meet or exceed the requirements of ASTM F1216 and ASTM F1743, the physical properties herein, and those which are to be utilized in the design of the CIPP liner.

17. CIPP pipeliners shall meet the following criteria:
18. Requirements of ASTM F1216, Appendix XI.
19. No bonding to original pipe wall assumed
20. Utilizes a long-term, time dependent flexural modulus value obtained from long-term testing results for flexural creep of the CIPP material installed by the installer on previous projects consisting of the same work
21. Utilizes a percentage of the instantaneous flexural modulus value as measured by ASTM D790 testing in design calculation for external buckling. Does not use values in excess of 50% unless substantiated by qualified

    independent testing laboratory data.
22. Produced using materials of equal quality or better than the materials used in the long-term test with respect to the initial flexural modulus used in design.
23. Utilizes an enhancement Factor "K" value of 7 for "partially deteriorated" design conditions. Does not use Enhancement (K) factors in excess of 7 unless substantiated by qualified independent testing laboratory data.
24. Produced with uniformly bonded layers. Any two layers cannot be cleanly separated with a probe or point of a knife blade or separated in a manner that allows the probe or knife to move freely between layers.
25. Produces with light, a reflective interior wall color to allow clear, detailed examination with closed circuit television inspection equipment.
26. Conforms to the structural properties listed in the following table:

MINIMUM STRUCTURAL PROPERTIES			
Property	**Test Method**	**Cured Composite per ASTM F1216**	**Cured Composite (400k Resin)**
Modulus of Elasticity	ASTM D790 (short term)	250,000 psi (1,722,500 kPa)	400,000 psi (2,756,000 kPa)
flexural Stress	ASTM D790	4,500 psi	4,500 psi
		(31,000 kPa)	(31,000 kPa)

a. Produced with a minimum wall thickness of ¼ in (6 mm) throughout the line. Wall thickness is based on the physical properties listed in the table above and the design equations in the appendix of ASTM F1216, using the design parameters listed in the following table:

DESIGN PARAMETERS	
Design Safety Factor	2.0
Retention Factor for Long-Term Flexural Modulus (determined by long-term testing described above)	1%-60%
Ovality	2%
Enhancement Factor, k	7

b. Layers of the tube not saturated with resin prior to insertion into the existing pipe are not included in the structural CIPP pipeliner wall thickness computation.

c. Meets or exceeds chemical resistance requirements of ASTM F116, Appendix X2

d. Contains no dry or saturated layers

H. Pipe Detection Wire

Unless otherwise specified in the Plans or The Facility Owner's Standard Specifications, open cut installations of non-metallic pipe shall include minimum #12 gauge tracing wire. Pipe installed by directional drill shall include two (2) insulated 8 gauge tracer wire. Wire shall be solid copper insulated with HDPE installed along pipe, wrapped around service line stub outs and stubbed into valve boxes for locating purposes. Wire shall be properly spliced to provide continuous conductivity.

I. Warning Tape

Sanitary sewer mains shall be installed with polyethylene film warning tape manufactured for marking and identifying underground wastewater utilities. Tape shall be a minimum of 2 inches (50 mm) wide and 4 mils thick, green in color, with continuously printed letters reading "CAUTION BURIED SEWER LINE BELOW".

J. Gate Valves

1. Gate valves sizes 3-inch (80 mm) and larger shall be of the resilient seat type meeting the requirements of AWWA C509 or C515. Valves shall be iron body, bronze trimmed, with non-rising stems, and shall be fusion-bonded epoxy coated per ANSI/AWWA C550. Valves shall have a minimum design working pressure of 200 psi.

Valves shall be manually operated by nut and open counter-clockwise unless specified otherwise in the Plans or The Facility Owner's Standard Specifications.

2. The resilient seating arrangement shall provide zero leakage at the design working pressure when installed with line flow in either direction. All ferrous surfaces inside and outside shall have a fusion bonded epoxy coating. All valves shall be provided with O-ring seals. The design and machining of valves shall be such as to permit replacing the O-ring seals in the valves while in service without leakage.

3. All gate valves, when fully opened, shall have an unobstructed waterway diameter equal to or larger than the full nominal diameter of the valve.
4. In general, valves shall be designed for vertical installation. Valves installed in the horizontal position shall be provided with bevel gears, extended gear case, rollers, tracks, and scrapers.
5. Exposed or above-ground gate valves shall be outside screw and yoke (OS&Y) flanged joint type with an operating hand wheel. The face-to-face dimensions and drilling shall conform to ANSI B16.10 for Class 125 flanged joint end gate valves.
6. Valves shall include mechanical joints, bolts, glands, gaskets, and all other materials necessary to join to existing work.
7. Provide brass identification tag imprinted with "SEWER", valve size, valve type, and direction and number of turns to open. Provide a ¼-inch (8 mm) hole in the brass tag and attach the tag to the end of the locate wire (twist wire around tag). Tag shall be 2-inch (50 mm) diameter and ⅛-inch thick brass with a ¼-inch (8 mm) hole.

K. Insertion Valves

1. Insertion type valves shall be resilient wedge gate valves designed to be installed into an existing pressurized force main without interruption of flow through the pipe and no reduction of line pressure.
   a. Valve shall be fusion-bonded epoxy coated in compliance with AWWA C550.
   b. The construction of the resilient wedge shall comply with AWWA C509 requirements.
   c. The resilient wedge shall be fully encapsulated with EPDM rubber and shall seat on the valve body and not the pipe. The resilient wedge shall be totally independent of the carrier pipe.
   d. Valve shall be restrained to the pipe.
   e. Valves shall be suitable for operating pressures up to 250 psi.

L. Plug Valves

1. All plug valves shall be of the non-lubricated eccentric type with resilient faced plugs and shall comply with

AWWA C517 requirements. The pipe connections shall be flanged or mechanical joint as required. Flanged valves shall be in accordance with ANSI B16.1, Class 125 and ANSI B16.5, Class 150. Mechanical joint valves shall be in accordance ANSI/AWWA C111/A21.11. Buried plug valves shall have mechanical joint ends. Valve and gearing shall be rated for a minimum of 150 psi pressure rating.

2. Valves shall be coated with an epoxy coating applied to both the exterior and the interior surfaces prior to assembly of the valves.
3. Unless specified otherwise in the Plans or The Facility Owner's Standard Specifications, the port area shall be 100% of standard full pipe area. The body of the valve shall be constructed of cast iron ASTM A126 Class B. Valves shall be furnished with permanently lubricated stainless steel or oil-impregnated bronze upper and lower plug stem bushings. These bearings shall comply with current AWWA Standards. Both nut and gear operated valves shall have a 2-inch (50 mm) square nut for operation.
4. Provide brass identification tag imprinted with "SEWER", valve size, valve type, and direction and number of turns to open. Provide a ¼-inch (8 mm) hole in the brass tag and attach the tag to the end of the locate wire (twist wire around tag). Tag shall be 2-inch (50 mm) diameter and ⅛-inch (6 mm) thick brass with a ¼-inch (8 mm) hole.

M. Check Valves

1. Swing check valves sizes 4-inch (100 mm) through 30-inch (750 mm) shall be constructed of a cast iron body with a bronze seat ring, and a noncorrosive shaft for attachment of weight and lever. Check valves shall comply with AWWA C508 requirements and have a 150 psi minimum pressure rating.
2. The valve disc shall swing completely clear of the waterway when valve is fully open, permitting full flow. The disc shall be cast iron, rubber faced.
3. Check valves shall be flanged in accordance with ANSI 16.1, Class 125, and installed inside a vault or pit.
4. Provide brass identification tag imprinted with "SEWER", valve size, valve type, and direction and number of turns to open. Provide a ¼-inch (8 mm) hole in the brass tag and attach the tag to the end of the locate wire (twist wire around tag). Tag shall be 2-inch (50 mm) diameter and ⅛-inch (6 mm) thick brass with a ¼-inch (8 mm) hole.

N. Tapping Sleeves and Valve Assembly

1. Tapping sleeves and valves sizes 4-inch (100 mm) and larger shall be stainless steel with wraparound gasket style, or ductile iron of the split-sleeve, mechanical joint type. Tapping sleeves shall be rated for a minimum 150 psi working pressure in accordance with ANSI/AWWA C110/A21.10.
2. When tapping an existing asbestos cement pipe, a stainless steel tapping sleeve which contains a full gasketed surface within the sleeve body shall be used due to variances in the manufactured outside diameter of the asbestos cement pipe.
3. Tapping sleeve shall have an outlet flange per ANSI B16.1, Class 125 standard.
4. The Contractor shall determine the outside diameter of the existing main before ordering the sleeve.
5. Tapping valves shall be mechanical joint outlet, non-rising stem, resilient seated gate valves meeting the applicable requirements of ANSI/AWWA C509/C515 and C550 with a minimum design working pressure of 200 psi.
6. Tapping valves shall be specifically designed for pressure tapping with sufficient seat opening to allow full diameter taps to be made.
7. Tapping valves shall be manufactured with an integral tapping flange having a raised lip design.
8. Tapping valves shall be furnished with a combination flange and mechanical joint for connecting the branch to the main.

O. Valve Boxes

1. All valves shall be equipped with valve boxes. The valve boxes shall be heavy, roadway type boxes. The valve box cover shall be marked "SEWER VALVE" or "SEWER".
2. Valve box materials shall conform to the requirements and standards set forth in The Facility Owner's Standard Specifications.

3. The valve boxes shall be adjustable up or down from the nominal required cover over the pipe. Extensions shall be provided as necessary. A precast concrete ring shall be placed around the valve box opening when outside of paved areas.

4. Valves shall be furnished with extension stems as necessary to bring the operating nut to within 24 inches (600 mm) minimum of the top of the valve box.

P. Tapping Saddles

1. Tapping saddles shall have ductile iron or bronze body with stainless steel, double-tie straps and nuts with pressure rating not less than that of the pipe to which it is to be connected.
2. Saddles shall have a rubber gasket cemented to the body with compatible threading between the saddle and corporation stop. Saddles shall conform to ANSI/AWWA C800 standards.
3. The tapping saddle shall provide full support around the circumference of the pipe, providing a bearing area of sufficient width so that pipe will not distort when the saddle is tightened.

Q. Concrete Vault

1. Concrete vaults shall conform to the requirements and standards set forth in The Facility Owner's Standard Specifications and standard details.

R. Air Release Valves

1. Air release, air/vacuum valves, and combination air valves shall be suitable for use with wastewater and manufactured in compliance with ANSI/AWWA C512.
2. Air release valves shall have a small venting orifice to vent the accumulation of air and other gases in the line or system under pressure.
3. Air/vacuum valves shall have a large venting orifice to permit the release of air as the line is filling or relieve the vacuum as the line is draining or is under negative pressure
4. Combination air valves shall have operating features of both the air/vacuum valve and air release valve.
5. Valves shall be suitable for pressures up to 250 psi.
6. Air release, air/vacuum valves, and combination air valves shall conform to the requirements and standards set forth in The Facility Owner's Standard Specifications and standard details.

S. Thrust Collars and Thrust Blocks

1. Concrete used for thrust collars or thrust blocks on force mains shall meet the "Class A" requirements for concrete listed in Section 500.
2. Thrust collars shall include welded-on collars attached by the pipe manufacturer or retainer glands. Concrete shall be poured continuous around the pipe and bear against undisturbed earth.
3. Reinforcing steel shall meet the requirements set forth in the Plans or The Facility Owner's Standard Specifications.
4. Mechanical joint restraints shall be utilized in lieu of thrust blocks with the approval of the Utility Owner.

T. Manholes

1. Manholes shall be precast concrete or as indicated in the Plans and per The Facility Owner's Standard Specifications.

2. The minimum diameter for manholes shall be 48 inches (1200 mm). The minimum diameter for inside drop manholes shall be 60 inches 1500 mm). Manhole Types and Classes are described in Section 668.
3. Precast reinforced manholes shall be manufactured in accordance with ASTM C478 and shall have a minimum wall thickness of 5 inches (127 mm). All concrete shall have a minimum compressive strength of 4,000 psi when tested in accordance with ASTM C478.

4. The bases shall be monolithically cast and shall consist of a manhole bottom and a wall which shall extend a minimum of 6 inches (150 mm) above the top of the highest in-flowing sewer. The top of the base section shall be tongue and groove section.
5. There shall be a minimum distance of 6 inches (150 mm) between the invert of the lowest out flowing sewer and floor of the precast base to provide for the construction of a formed invert and bench wall within the manhole. There shall be a minimum 0.05-foot drop between the inlet and outlet inverts. Inverts shall be constructed of 4,000 psi plant mix concrete. Bench shape and discharge of force mains into manholes shall conform to the requirements of the Georgia EPD Guidelines for Sewage Collection Systems.
6. Joints between precast sections shall be sealed by means of rubber O-ring gaskets or flexible butyl rubber sealant.
7. Manholes shall have factory applied coatings on the interior and exterior. Surface preparation and coating application shall comply with the manufacturer's recommendations.
8. Manhole sections shall be rejected if abused during shipping or placement and if pipe openings are not properly aligned.
9. A protective coating or lining for corrosion protection shall be applied to all interior surfaces of manholes when called for in the Plans or The Facility Owner's Standard Specifications.
10. Pipe entry holes shall be either precast or cored. Connections between reinforced concrete manhole structures and sewer pipe shall be flexible connectors conforming to ASTM C 923 latest revision.
11. Frame and covers shall be cast or ductile iron and set in a bed of mortar on the top of the manhole and flush with finished grade. Covers shall be marked as indicated in the Utility Owner standard details.
12. Watertight manhole rings and covers are to be used if the manhole is located within the 100-year floodplain boundary or may be flooded by street runoff.
13. Riser adjusting rings shall be a minimum of 3 inches (80 mm) on cone sections. Manhole adjustment rings shall be sealed with a flexible rubber seal.
14. Drop manhole: Inside or outside drop inlets shall be provided into sanitary sewer manholes for incoming lines having inverts 2 feet (0.6 m) or more above the inverts of the manhole outlet lines. Drop pipes shall be the same size as the sewer that they serve. Openings in walls of precast concrete manholes for outside drop connections shall not be made at joints. Outside drop piping materials and encasement/embedment shall be as indicated in the Plans. Concrete used to encase the outside drop piping shall be 4,000 psi plant mix concrete unless otherwise indicated on the Plans.

660.2.02 Delivery, Storage, and Handling

A. Handle pipe, fittings, valves, and accessories carefully to prevent damage. Handle pipe by rolling on skids, forklift, or front end loader. Do not use material damaged in handling. Slings, hooks, or pipe tongs shall be padded and used in such a manner as to prevent damage to the exterior coatings or internal lining of the pipe. Do not use chains in handling pipe, fittings, and appurtenances.

B. To unload pipe, carefully lift and lower it into position using approved padded slings, hooks, or clamps. Furnish equipment and facilities for unloading, handling, distributing, and storing pipe, fittings, valves, and accessories. Make equipment available at all times for use in unloading. Do not roll, drop or dump materials. Any materials dropped or dumped shall be subject to rejection without additional justification.

C. Stored materials including salvaged materials shall be kept in suitable areas safe from damage. The interior of all pipe, fittings, and other appurtenances shall be kept free from dirt or foreign matter at all times. Store and support plastic pipe to prevent sagging and bending. Store plastic pipe and gaskets to prevent exposure to direct sunlight. Valves shall be stored and protected from damage by freezing.

D. Pipe shall not be stacked higher than the limits recommended by the manufacturer. The bottom tier shall be kept off the ground on timbers, rails, or concrete.

660.3 Construction Requirements

660.3.01 Personnel

A. General Provisions 101 through 150.

B. Construction and installation of all wastewater utilities shall be performed by a Contractor prequalified/registered with GDOT.

C. All work specified in this section shall be performed by a Contractor with a valid Utility Contractor's license issued by the State of Georgia. Sewer service line installation shall be performed by either a Utility Contractor licensed in the State of Georgia or by a Master Plumber licensed in the State of Georgia.

660.3.02 Equipment

A. Ensure all equipment used is in conformance with the requirements and standards set forth in The Facility Owner's Standard Specifications.

660.3.03 Preparation

General Provisions 101 through 150.

660.3.04 Fabrication

General Provisions 101 through 150.

660.3.05 Construction

A. Finding Existing Underground Utilities and Obstructions

1. Comply with Subsection 107.13 and Subsection 107.21.
2. According to the best information available to GDOT, all known sewer lines, water lines, gas lines, telephone conduits, drainage structures, etc. are shown on the Plans. However, to find such installations, use an electronic pipe and cable finder for locating existing installations or obstructions to the work.
3. Obtain approval from GDOT Project Manager and the Utility Owner prior to disruption of wastewater services required for the installation of the facilities shown on the project Plans.

B. Jack and Bore

Comply with Section 615 for sewer main installations by jack and bore.

C. Directional Drilling

1. Install sewer mains and services by means of directional drilling at locations shown on the Plans or where approved by GDOT or Utility Owner. Provide submittals and follow all relevant procedures and requirements set forth in The Facility Owner's Standard Specifications.
2. The Contractor shall not initiate horizontal directional drilling until all submittals are received, reviewed, and accepted by GDOT and the Utility Owner, and all required permits are obtained.
3. The Contractor shall select drilling additives and fluid mixture proportions to ensure continuous circulation, bore stability, reduce drag on the pipe, and completely fill the annular space between the bore and the pipe to ensure stability and control settlement.
4. The Contractor shall submit contingency plans for remediation of potential problems that may be encountered during the drilling operations. The contingency plans shall address the observations that would lead to the discovery of the problem and the methods that would be used to mitigate the problem. Potential problems that shall be addressed include:
    a. Loss of returns/loss of circulation of drilling fluid.
    b. Encountering obstruction during pilot bore or reaming/pullback.
    c. Drill pipe or product pipe cannot be advanced.
    d. Deviations from design line and grade exceed allowable tolerances.
    e. Drill pipe or product pipe broken off in borehole.
    f. Product pipe collapse or excessive deformation occurs
    g. Utility strike.

h. Hydrolock occurs or is suspected.

i. Excessive ground settlement or heave of ground surface or existing utilities.

j. Inadvertent returns/hydrofracture or surface spills resulting in drilling fluids entering water or reaching the surface.

5. Pipe damaged in directional drilling operations shall be removed and replaced at no additional expense to GDOT or the Utility Owner.

6. Voids developed or encountered during the installation operation shall be pressure grouted with a grout mix approved by GDOT.

7. Installation shall include a locatable conduit system, with identification markers on each side of GDOT right-of-way where applicable. Two (2) insulated 8 gauge solid copper tracers wire shall be attached to the leading end of the pipe pulling head and shall extend the full length of the installed pipe.

8. The location and alignment of the pilot drill progress shall be continuously monitored for compliance with the proposed installation alignment and for verification of the depth of the bore. Monitoring shall be accomplished by computer generated bore logs which map the bore path based on x, y, z coordinate information provided by the locating/tracking system. Readings or plots shall be obtained on every drill rod, and shall be provided to the Inspector on a daily basis. Deviations between the recorded and design bore path shall be calculated and reported on the daily log. If the deviations exceed tolerances specified elsewhere, such occurrences shall be reported immediately to GDOT. The Contractor shall undertake all necessary measures to correct deviations and return to design line and grade.

9. Upon completion of the directional drill the Contractor shall furnish GDOT and the Utility Owner an as-built drawing along with a report of the monitoring of the drilling fluids during the pilot hole and back reamed hole.

10. Drilling fluid pressures, flow rates, viscosity, and density shall be monitored and recorded by the Contractor. The pressures shall be monitored at the pump. These measurements shall be included in daily logs submitted to GDOT. The Contractor shall document modifications to the drilling fluids, by noting the types and quantities of drilling fluid additives and the dates and times when introduced. The reason for the addition of drilling fluid additives or other modifications shall be documented and reported.

11. Management and disposal of drilling fluids shall be the Contractor's responsibility. Excess drilling fluids shall be contained at the entry and exit points until recycled or removed from the site. All drilling fluids shall be disposed of in a manner acceptable to the appropriate local, state and federal regulations. The Contractor's work will be immediately suspended by GDOT whenever drilling fluids seep to the surface other than in the boring entrance or exit pit, or when a paved surface is displaced.

12. Surfaces damaged by the work shall be restored to their preconstruction conditions at no additional cost to GDOT or Utility Owner, and with no increase in contract time.

13. The following items shall be as shown on the Plans, unless otherwise approved in writing by GDOT:
    a. Entry / exit points
    b. Drill entry / exit angles
    c. Pilot bore path
        1) Radius of Curvature
        2) Entry / exit tolerances: Contractor shall be solely responsible for all work necessary to correct excessive deviations from line and grade, including re-drilling, redesigning connections, and acquiring additional easement, at no additional cost to GDOT or Utility Owner and without schedule extension.

14. The pilot bore shall be pre-reamed and reamed using equipment and methods submitted by the Contractor. The Contractor shall completely ream the bore to the final diameter prior to pullback.

15. Pullback: The pipe shall be installed by pulling it into the reamed bore path in a continuous operation, behind a final reaming tool selected by the Contractor. The pipe shall be isolated from excessive torsional and axial stresses by a swivel device with a pre-established breakaway tensile capacity that is lower than the allowable tensile strength of the pipe. The maximum pull (axial tension force) exerted on the pipelines shall be measured continuously and limited

to the maximum allowed by the pipe manufacturer with an appropriate factor of safety so that the pipe or joints are not overstressed. The end of the pipe shall be closed during the pull back operation.

16. Pipelines shall be adequately supported during installation so as to prevent overstressing or buckling. The Contractor shall provide adequate support/rollers along the pipe layout area to support the required length of pipe for the bore. The pipe layout area shall be cleared of all large stones, construction debris, or other foreign objects that could damage the pipe during pullback. The Contractor shall monitor and inspect pipe rollers and method for suspending pipe at entry during the pullback operation to avoid damage to the pipe.
17. The end of the pipe shall be closed during the pull back operation.
18. Each length of pipe shall be inspected and cleaned as necessary to be free of debris immediately before joining.
19. The Contractor shall at all times handle the pipe in a manner that does not overstress or otherwise damage the pipe. Vertical and horizontal curves shall be limited so that wall stresses do not exceed 50% of yield stress for flexural bending of the pipe. If the pipe is buckled or otherwise damaged, the damaged section shall be removed and replaced by the Contractor at his expense. The Contractor shall take appropriate steps during pullback to ensure that the pipe and tracer wires will be installed without damage.
20. If necessary, the pipe shall have water added as it enters the bore to achieve neutral buoyancy and reduce pullback loads and to ensure that adequate internal pressure is maintained at all points to counter balance collapse pressures.
21. The Contractor shall cease pullback operations if the pipe is damaged and shall remove the pipe from the bore and repair the pipe using the manufacturer's recommended procedure or replace the damaged pipe before resuming installation.
22. Damage to the pipe resulting from manufacturer defects, installation, or grouting is the responsibility of the Contractor, including costs for replacement and labor and materials. To confirm no damage to the pipe, upon completion of pull back, the Contractor shall pull a sphere or pig through the entire length of the pipeline. The pig shall be one inch less in diameter than the internal diameter of the product pipe, capable of allowing water to pass through it, complete with a pulling cable on either side. If the pig or sphere cannot pass through the pipe, it shall be considered collapsed and damaged.
23. After the carrier pipe is completely pulled through the bore, a sufficient relaxation period as recommended by the pipe manufacturer shall be provided before the final pipe tie-in.
24. The Contractor shall conduct a final hydrostatic test of the installed pipeline. Final test shall be in accordance with these specifications. The Contractor shall repair any defects discovered during this test, and repeat until the pipe passes the test.

D. Excavating Trenches

1. The Contractor shall provide all necessary shoring and bracing materials as required to assure safe working conditions and to protect the excavations. The Contractor shall be required to fully comply with all applicable OSHA Excavation Safety Standards. No separate payment shall be made for any special procedure used in connection with the excavation.
2. Excavate trenches to the proper depth and width as follows:
   a. Trench to Grade: Excavated trench bottoms shall be firm, free from boulders, and conform to the established grade. Limit open trench excavation to a maximum of three 300 feet (90 m) ahead of completed backfill.
   b. Care shall be taken not to over excavate except where necessary to remove unstable material, irregularities, lumps, rock, and projections. Unnecessary over excavation shall be replaced at the Contractor's sole expense and in accordance with Subsection 660.3.05.
   c. Excavation carried below the established grade lines shown or established by the Utility Owner shall be backfilled according to Section 207 and Subsection 660.3.05. Use Class I or Class II Soils (defined in Section 810) and firmly compact the soil.
   d. Where the established grade of a trench is in rock, undercut the bottom of the trench by at least 6 inches (150

mm) beneath the pipe or conduit and the greater of 24 inches (600 mm) wider than the pipe/conduit (12 inches or 300 mm each side) or 42 inches (1050 mm) wide, then backfill and compact according to Subsection 660.3.05.

e. Open cut excavation in pavement and pavement patching shall be according to GA Standard No. 1401. Remove the pavement according to Section 444, except no separate payment shall be made for sawed joints.

f. Dewatering: Remove all water from excavations and maintain the excavations free of water while construction therein is in progress. Provide dewatering equipment as necessary to conform to this requirement. Dewatering procedures must meet all state and local regulatory requirements.

3. Minimum Trench Depth

a. Excavate trenches to provide at least 48 inches (1.2 m) cover depth directly above the pipe to the finished pavement surface, sidewalk, grass, etc. unless indicated otherwise on the Plans or by GDOT Project Manager and Utility Owner. In order to avoid existing utilities, it may be necessary for the pipe to be laid shallower or deeper than the minimum cover specified. At such time the Contractor shall not be allowed extra compensation for additional excavation necessary for deeper installations.

b. Side slopes of the trenches shall be as nearly vertical as practicable. Trenches in excess of 5 feet (1.5 m) deep shall either have the trench sides laid back to conform to OSHA requirements for trench safety, if such area is available within the limits of excavation, or, alternatively, trenches deeper than 5 feet (1.5 m) shall be excavated via trench box or shored and braced.

4. Trench Width: Excavate trenches to uniform widths, wide enough to allow proper installation of pipe, fittings, and other materials, a minimum of 6 inches (150 mm) and a maximum of 12 inches (300 mm) each side of the pipe or conduit.

5. Trench Bell Holes: Excavate bell holes deeply and widely enough to make joints and to allow the pipe barrel to rest firmly on the trench bottom.

6. Trench bottom: Excavate and shape trench bottoms to provide uniform bearing and support of pipes and conduits. Shape subgrade to provide continuous support of bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits/pipes. Remove projecting stones, tree roots, debris, and sharp objects along trench subgrade. Abrupt changes in grade of the trench bottom shall be avoided. Unless otherwise indicated in the Plans or The Facility Owner's Standard Specifications, trenches for force mains shall be graded to avoid high and low points that necessitate air release valves.

7. Excavations may be excavated and refilled either by hand or by machinery. Hand tool excavation shall be conducted where necessary to protect existing utilities and structures.

8. In the event that unsuitable material is encountered at or below the excavation depth specified or shown on the Plans, GDOT Project Manager shall be notified immediately before proceeding with any additional work. Such material shall be removed and replaced with suitable material in accordance with Section 205.

E. Connecting to Existing Mains

1. Connect to an existing main with the appropriate fittings according to the Plans or The Facility Owner's Standard Specifications and GDOT Project Manager. When making connections under pressure, furnish and use a tapping sleeve and valve assembly or line stop fittings as indicated. Coordinate with Utility Owner 72 hours in advance for wastewater service interruptions and temporary shut-offs. Evening or weekend work may be required to complete direct connections and tie-ins. Connect to existing mains as follows:

a. Before opening new pipeline trenches, locate the various points of connection to be made into existing pipelines. If necessary, uncover pipelines for the Utility Owner and GDOT Project Manager to prescribe the connections and fittings needed.

b. Connect to existing pipelines only to meet operating requirements. Cut existing lines only after obtaining the Utility Owner and GDOT Project Manager's permission.

c. Provide temporary line stops, associated fittings, and bypass pumping as indicated on the Plans and as necessary when cutting and plugging existing sewer mains to prevent service interruptions. Line stop and associated

fittings shall be suitable for working pressures of 250 psi.

d. Connections to existing asbestos cement pipe shall be performed as indicated on the Plans or in The Facility Owner's Standard Specifications. Cutting, removing, handling, and disposing of asbestos cement pipe shall be in accordance with requirements established by EPA, OSHA, GDOT, NIOSH, and the State of Georgia Environmental Protection Division, and any other applicable laws and ordinances.

F. Laying Sewer Mains and Appurtenances

1. Preparing and Handling Pipes
   a. Thoroughly clean the pipe and fittings before laying them. Keep them clean until accepted.
   b. Use suitable tools and equipment. Do not damage the pipe, especially the lining inside the pipe.
   c. Cut pipe in a manner to avoid damage to pipe or lining, leaving a smooth end at right angles to pipe axis. Smooth and bevel edges of cut pipe for push-on, gasket type joints.
   d. Bedding shall be provided as specified by the Utility Owner or pipe manufacturer for the type of conditions encountered. Bedding typically consists of granular soil free of lumps, clods, cobbles, and frozen materials, and shall be graded to a firm-but-yielding surface without abrupt changes in bearing value. Unstable soils and rock ledges shall be undercut from the bedding zone and replaced with suitable material.
   e. Bed pipe on coarse granular material in flat bottom trench with entire pipe barrel bearing uniformly on coarse granular material, except for an approximately 18-inch (450 mm) gap at pipe balance point for sling removal. Hand excavate and backfill as required to provide uniform and continuous bearing and support for the pipe. Do not support pipe on hubs or end bells. Consolidate coarse granular material under and around pipe up to pipe centerline by tamping.
   f. Join pipe with bells facing direction in which laying operation is progressing. Lay pipe upgrade wherever line grade exceeds 10%.
   g. Carefully examine pipe for cracks and other defects and do not lay defective pipe. If pipe or castings appear to be cracked, broken, or defective after laying, remove and replace those sections.
2. Alignment and Gradient
   a. Ensure that pipe alignment and gradient are according to the lines and grades on the Plans. Pressure pipe alignment shall be either straight or deflected to closely follow true curves. Deflect pipe lines only where required, within allowable horizontal and vertical deflection angles according to the manufacturer.
   b. Sewers shall be laid at least 10 feet (3 m) horizontally from any existing or proposed water main. The distance shall be measured edge-to-edge. When local conditions prevent a horizontal separation of 10 feet (3 m), the sewer may, on a case-by-case basis, be laid closer to a water main provided the water main is in a separate trench or on an undisturbed earth shelf located on one side of the sewer at such an elevation that the bottom of the water main is at least 18 inches (450 mm) above the top of the sewer.
   c. Maintain a vertical separation of at least 18 inches (450 mm) between the crown of sanitary sewers and the invert of existing or proposed water mains with the sewer main located below the water main.
   d. Where a vertical separation of 18 inches (450 mm) cannot be provided, and the sewer main cannot be relocated to provide adequate clearance, the section of sewer main passing over or under water mains shall be constructed of materials and with joints that are equivalent to water main standards of construction and in accordance with Section 670, or the sewer line shall be encased in a watertight carrier pipe in accordance with Section 670, extending 10 feet (3 m) on both sides of the crossing measured perpendicular to the water main and shall be pressure tested to assure water-tightness to 150 psi prior to backfilling.
3. Special Requirements for Laying Sewer Mains
   a. Excavate, clean, lay, joint, and backfill progressively and uniformly according to these requirements:
      1) Never leave pipe in the trench overnight without completely jointing and capping.
      2) Do not leave completed pipeline exposed in the trench. Backfill and compact the trench as soon as possible after laying, jointing, and testing are complete.
      3) At the close of work each day and when laying pipe, close the exposed end of the pipeline in the trench

with an approved wood or metal head or barrier.

4) If necessary to cover the end of an incomplete pipeline with backfill, close the end of the pipe with a satisfactory cap or plug.

G. Installing Sewer Mains by Open Cut

1. Use the following flexible joints for connections inside the roadway shoulders or curbs and gutters:
   a. Mechanical Joints
      1) When using mechanical joints, thoroughly wash bell sockets, spigots, gland, gasket, nuts, and bolts with soapy water before assembly. Keep these parts wet until the jointing operation is complete.
      2) Tighten nuts within the torque range recommended by the manufacturer. Check the tightening tolerance with a torque wrench.
      3) If effective sealing is not attained at the maximum recommended torque, disassemble, thoroughly clean, and then reassemble the joint.
      4) Do not overstress bolts to compensate for improper installation or defective parts.
   b. Push-On Type Joints
      1) Use push-on joints made according to the manufacturer's recommendations.
      2) Install PVC pipe in accordance with AWWA C605.
      3) Install ductile iron pipe in accordance with AWWA C600.
2. Restraints for pipe joints and fittings shall be provided as specified and as shown on the Plans. Restraints shall be installed per manufacturer's recommendations.
3. Buried ductile iron pipe and fittings shall be polyethylene encased as specified and as indicated on the Plans. Polyethylene encasement tubing shall be secured with polyethylene tape and installed in accordance with ANSI/AWWA C105/A21.5.
4. Unless otherwise specified by The Facility Owner's Standard Specifications, provide pipe detection wire on all non-metallic pipe systems. Tape the tracer wire to the top center of the pipe at intervals which prevent wire displacement during backfilling operations. Stub tracer wire up 6 inches (150 mm) above finished grade at all valves. For splices, use direct bury kits. After backfilling is complete, test electrical continuity of each tracer wire segment and provide test results to Utility Owner and GDOT Project Manager.
5. Install continuous underground warning tape during backfilling of trench for underground water distribution piping. Install 12 inches (300 mm) below finished grade, or 6 inches (150 mm) below subgrade under pavements and walkways, and buried directly over piping.
6. Use pipe cutters when cutting pipe or special castings. Do not use a hammer, chisel, or a cutting torch.
7. Force mains that do not meet minimum depth of cover, vertical clearance requirements, or other installation requirements at special locations (e.g. creek crossings) shall include concrete encasement. Concrete encasement shall be installed per The Facility Owner's Standard Specifications.
8. If HDPE pipe is to be installed where high groundwater table or water surrounding the pipe is expected, precautions shall be taken to provide neutral buoyancy to prevent floatation or a change in alignment.
9. Valves on Sewer Mains: Install and joint gate, plug, and check valves in accordance with AWWA C600. Include the valve box and valve marker where required.
10. Air release valves shall be installed at high elevation points on the force main and at locations indicated on the Plans. Air release valves shall be installed in accordance with manufacturer's recommendations.
    a. Unless specified otherwise in the Plans or The Facility Owner's Standard Specifications, air release valves shall be installed in a shallow manhole or vault. Automatic air relief valves shall not be used in areas where flooding of the manhole or vault may occur.
    b. An isolation valve shall be installed between the air release assembly and the connection to the main.
    c. The Contractor shall furnish and install at no additional cost to GDOT or Utility Owner all necessary fittings for the installation of air release valves at high points.

11. Thrust Collars and Thrust Blocks: If required, furnish materials and install thrust collars or concrete blocking along force mains as indicated in Subsection 660.2.01. Form and pour concrete thrust collars or blocks in accordance with the Plans and The Facility Owner's Standard Specifications. Blocking shall be poured against undisturbed earth and all forms shall be removed before backfilling.
12. Backfilling
    a. Furnish equipment, labor, and when necessary, suitable material to conform with The Facility Owner's Standard Specifications required for backfilling the pipe line trenches according to Section 207, and as follows:
        1) When testing for leaks in open trenches, do not backfill until testing is complete and leaks are eliminated.
        2) When retaining pavement adjacent to trenches, replace removed pavement with the same or better material when approved in accordance with the appropriate Section for the pavement type replaced.
        3) Place backfill on subgrades free of mud, frost, snow, or ice.
        4) Place and compact bedding course on trench bottoms and where indicated. Shape the bedding course to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits/pipes.
        5) Backfill shall include Class I or Class II Soils as defined in Section 810 or suitable material that conforms with The Facility Owner's Standard Specifications.
        6) Backfill shall be placed in two stages: first, side fill to a height of 12 inches (300 mm) above the top of pipe; second, overfill to former surface grade. Side fill shall consist of granular material laid in 6-inch (150 mm) layers each consolidated by mechanical tamping and controlled addition of moisture, to a density of 95% as determined by the Standard Proctor test (AASHTO T-99 Method D) or GDT 67. Overfill shall be layered and consolidated to match the entrenched material in cohesion and compaction. The top 12 inches (300 mm) shall be compacted to 100% of specified density. Consolidation by saturation or ponding shall not be permitted.
        7) Soil Moisture Control: Uniformly moisten and aerate subgrade and each subsequent fill or backfill soil layer before compaction to within 2% of optimum moisture content. Remove and replace, or scarify and air dry, otherwise satisfactory soil material that exceeds optimum moisture content by 2% and is too wet to compact to specified dry unit weight.
        8) Initial backfill shall be carefully compacted under pipe haunches and evenly up on both sides and along the full length of piping or conduit to avoid damage or displacement of piping or conduit. Place and compact fill and backfill of satisfactory soil to final subgrade elevation. Backfill voids with satisfactory soil while removing shoring and bracing and/or trench boxes.
        9) After backfilling, maintain temporary surface restoration per GA Standard No. 1401 until permanent repaving is complete. No separate payment shall be made for replaced pavement.

H. Installation of Manholes

1. Each manhole location within the trench shall be over excavated to receive a minimum of 8 inches (200 mm) of No. 57 stone to establish a firm foundation for the manhole. Where the excavation reveals an unsuitable foundation, whether rock or muck, the Contractor shall remove unsuitable material and install No. 57 stone in 6-inch (150 mm) lifts to a maximum of 2 feet (0.6 m) as a foundation for the structure.
2. All manholes shall be installed plumb.
3. Horizontal joint sealant protruding into the manhole shall be cut smooth against the interior wall. Interior joints shall not be grouted unless otherwise directed.
4. Exterior wrap shall be installed centered over joints between manhole sections. Exterior manhole wall shall be clean prior to installing wrap.
5. Backfill adjacent to manholes shall be mechanically compacted in 12-inch (300 mm) lifts symmetrically around the perimeter of the manhole up to the frame and cover, and in accordance with Subsection 660.3.05.
6. Manholes shall be set flush with finished pavement grades where located beneath roadways, sidewalks, or other paved surfaces.

7. All lifting holes or equipment mounting holes shall be filled in completely and made watertight per manufacturer's recommendations.

I. Connections to Existing Manholes

1. Whenever new sewers are connected to existing manholes, pipe openings shall be core drilled with approved equipment to accommodate new pipe. Such connections to existing manholes shall be installed in accordance with manufacturer's recommendations for neoprene boot, link seal or equal. All cuts shall be coated with an appropriate protective coating.
2. The bottom of the manhole shall be reworked and shaped to accommodate the new connections.

J. Laying Sewer Laterals and Appurtenances

1. Except as modified in this Section, construct and install sewer laterals according to the Plans and the requirements for laying sewer mains. Install service lines at locations shown on the Plans or where designated by the Utility Owner and GDOT Project Coordinators.
2. Trench depth and backfill cover may be adjusted at the discretion of the Utility Owner and GDOT Project Coordinators to provide at least 18 inches (450 mm) of cover.
3. Install wyes or tees in the locations shown on the Plans for connection of existing or future service lines. Install laterals with proper grade and alignment to the property line shown on the Plans.
4. New laterals shall extend from the sewer main to the edge of the right-of-way (no more than 5 feet (1.5 m) from the edge of the right-of-way line) where they shall be plugged using a stopper of appropriate size. Sewer laterals shall be tapped into sewer trunk lines using the appropriate tapping machine.
5. Laterals shall be bedded and backfilled in accordance with bedding requirements shown on the Plans and specified herein.
6. Lateral connections shall not be made by knocking a hole in the main or manhole, inserting the lateral pipe, and sealing with grout.
7. Unless otherwise indicated in the Plans or The Facility Owner's Standard Specifications , sewer laterals shall be a minimum of 6 inches (150 mm) in diameter and shall extend from the main and terminate with a clean-out constructed at the edge of right-of-way.

K. Cutting and Capping Existing Sewer Mains

Disconnect by sawing or cutting and removing a segment of existing pipe where cutting and capping or plugging is shown on the Plans or directed by The Facility Owner's or GDOT Project Coordinators. Provide a watertight pipe cap or plug and restraint mechanism to seal off existing mains indicated to remain in service. If sewer main is to be abandoned or removed and not specified to be grout filled, seal ends with a pipe cap or plug or with a masonry plug and minimum 6-inch (150 mm) cover of concrete on all sides around the end of the pipe.

1. The Contractor shall be responsible for uncovering and verifying the size and material of the existing main to be capped or plugged.
2. Abandoned manholes and sewer mains larger than 6 inches (150 mm) shall be removed or filled with flowable fill per Section 600 at the locations indicated on the Plans. Air release valves along abandoned pressure pipe shall be plugged prior to grouting. Prior to backfilling, the bottom of the manhole shall be broken up in such a manner that water will readily pass through and all pipes entering the manhole shall be plugged or grout filled. The top portion of the manhole structure shall be removed in order to establish a minimum of 3 feet cover from subgrade or finished grade when not under the pavement and filled with sand or suitable backfill.
3. Sewer mains shall be cleaned prior to placement of flowable fill. Use concrete or grout pumps capable of continuous delivery at planned placement rate with sufficient pressure to overcome friction and fill the sewer main.

L. Cured-In-Place Pipe (CIPP) Liner Installation

1. Work shall only be performed by personnel trained, experienced, and skilled in the CIPP process.
2. Bypass Pumping: Provide bypass pumping for the flow of sewage around the section or sections of pipe designated

for renovation. Accomplish bypass pumping by plugging the line at an existing upstream manhole and pumping the flow into a downstream manhole. Pump sizing shall be adequate to handle the flow. Provide bypass pumping during pre-installation and post-installation video inspections and during the CIPP liner installation.

3. Pre-Installation: Inspect pipelines for breaks, obstacles, and service connections by close circuit television (CCTV) and produce permanent video record (DVD). Camera used for inspection shall be equipped with rotating head that is capable of 90 degree rotation for horizontal and 360 degree rotation about its centerline and has a minimum resolution of 400 vertical lines and 460 horizontal lines. Camera shall be operative in 100% humidity. Utilize power winches, TV cable, and power rewinds to move camera through sewer line at a speed less than 30 feet (10 m) per minute. Provide voice over description on the video with stationing of services and areas for point repair indicated on the video. Inspect interior of pipeline to determine existing conditions that may prevent proper installation of the CIPP pipeliner. Designate areas for point repair by evaluating any obstructions that can't be removed by conventional sewer cleaning equipment such as a protruding service connection, dropped joint, or collapse. Confirm locations for all branch service connections. Transfer procession and property rights of the inspection video record to the Utility Owner.
4. Cleaning: Clear the line of all solids and roots. Remove all internal debris from the sewer line to prevent interference with the CIPP. Properly dispose of all debris removed from the sewer line.
5. Point Repair: Excavate and repair any protruding service connection, dropped joint, or collapsed pipe observed during the inspection process.
6. Customer sewer service shall be maintained throughout the duration of the project whenever possible. If maintaining customer sewer service is not possible, limit outage duration for sewer customers to a maximum of 8 hours. Each home or business being affected shall be contacted and informed of the work being conducted, when service will be unavailable, and the duration of the outage. Contact shall be made a minimum of 7 calendar days prior to service outage. Deliver a written notice to each affected home or business a minimum of one business day prior to beginning work informing them when service will be unavailable, the duration of the outage, and a local telephone number for customers to call and discuss any issues.
7. Install CIPP in accordance with ASTM F1216, Section 7, or ASTM F1743, Section 6 with the following modifications:
    a. Quantity of resin used for tube impregnation is sufficient to fill the volume of air voids in the tube with additional allowances for polymerization shrinkage and the loss of resin through cracks and irregularities in the original pipe wall.
    b. Thorough resin saturation is achieved throughout the length of the felt tube.
    c. Point of vacuum is not further than 25 feet from the point of initial resin introduction.
    d. Vacuum point is no further 75 feet form the leading edge of the resin after a vacuum in the tube is established.
    e. Leading edge of the resin slug is as near to perpendicular as possible.
8. Tube insertion: Position the wetout tube in the pipeline using either inversion or a pull-in method. If pulled into place, utilize power winching equipment suitable for intended purpose and ensure the tube is not damaged as a result of pull-in friction. The tube shall be pulled-in or inverted through an existing manhole or approved access point and shall extend fully to the next designated manhole or termination point.
9. Temperature Monitoring: Place temperature gauges inside the tube at the invert level of each end and monitor the temperature during the CIPP cure cycle.
10. Reopen service connections without excavation.
11. Following installation and reinstatement of service connections, perform post-installation inspection utilizing CCTV requirements for pre-installation.
12. Perform visual inspection of the CIPP pipeliner in accordance with ASTM F1743, Section 8.6.
13. Prepare CIPP pipeliner samples and test physical properties in accordance with ASTM F1216 or ASTM F1743,

Section 8, using either method proposed. Flexural properties shall meet or exceed the values listed in Table 1 of the applicable ASTM. Provide for testing of flexural properties and reporting of test data for each line segment by an independent testing laboratory accredited by AASHTO Accreditation Program.

14. Obtain wall thickness samples for analysis from each line segment installed and at the end farthest from the cure source. Determine wall thickness of samples as described in paragraph 8.1.6 of ASTM F1743. The minimum wall thickness at any point shall not be less than 87.5% of the design thickness as specified in Subsection 660.2.01. Provide for testing of wall thickness samples and reporting of test data for each line segment by an independent testing laboratory accredited by AASHTO Accreditation Program.

M. Relocating, Adjusting, and Removing

1. Sewer Valves and Air Release Valves
   a. Relocate, adjust to grade, or remove valves and valve boxes according to the Plans or as designated by the GDOT Project Manager and Utility Owner.
   b. Protect items during removal and relocation. Contractor shall replace lost or damaged Items at no expense to GDOT.
   c. Disconnect each joint before removing items from the trench.
   d. Test for leakage, adjust, and retest until no leaks appear.
   e. Backfill as specified in Subsection 660.3.05.
   f. Consider valve boxes part of the valve assembly and remove them intact with the valve.
2. Existing Valve Boxes
   a. Lower, raise, or relocate existing valve boxes to the location and grade established on the Plans or by the GDOT Project Manager and Utility Owner according to Section 611.
3. Lift Stations
   a. Demolish and install new lift station (if required) as indicated on the Plans.
4. Manholes
   a. Frames and covers shall be removed and manhole shall be adjusted to grade. Adjustment shall be made by adding or removing brickwork, concrete, riser rings, or other materials in accordance with the Plans and The Facility Owner's.
   b. Within roadways, manholes shall be brought to final grade prior to paving. A minimum area of 12 inches (300 mm) wide (from edge of manhole ring) and a minimum of 12 inches deep shall be excavated around the adjusted frame and cover prior to final paving. The excavated area shall be brought to the grade of the roadway base material with a minimum of 3,000 psi concrete in preparation of final paving.
5. Utility related items identified on the Plans to be salvaged are the property of the Utility Owner. Contractor shall coordinate with Utility Owner on delivery of salvaged materials. Should the Utility Owner choose to not accept these materials they shall be removed from the project site as soon as practical.

N. Aerial Crossings

1. When the aerial crossing is accomplished by attachment to a bridge or drainage structure, the crossing shall meet all requirements of the agencies that own or have jurisdiction over such structures.
2. Support must be provided for all joints in pipes utilized for aerial crossings. The supports must be installed to prevent frost heave, overturning, and settlement. Precautions against freezing, such as insulation and increased slope, must be provided.
3. Expansion joints shall be provided between above ground and below ground sewers. Where buried sewers change to aerial sewers, construction shall minimize frost heaving.
4. Aerial installations shall avoid or minimize stream blockage during normal high water events.
5. For pressure pipe, underground valves shall be provided at both ends of the aerial crossing so that the section can be isolated for testing or repair. The valves shall be restrained, easily accessible, and not subject to flooding. An air release/vacuum relief valve shall be installed at all high points along the aerial crossing.

6. Appropriate guards shall be installed at both ends of the aerial crossing to prevent public access to the pipe.

660.3.06 Quality Acceptance

A. Materials Certification

For certain products, assemblies and materials, in lieu of normal sampling and testing procedures by the Contractor, the GDOT, and Utility Owner may accept from the Contractor the manufacturer's certification with respect to the product involved under the conditions set forth in the following paragraphs:

1. Material certifications shall be provided to GDOT, who shall distribute to the Utility Owner. Material certifications shall be approved by GDOT and the Utility Owner prior to construction. The certification shall state/specify that the named product conforms to these specifications and requirements of the Utility Owner and GDOT, and representative samples thereof have been sampled and tested as specified.
2. The certification shall either:
   a. Be accompanied by a certified copy of the test results, or on GDOT QPL list, or
   b. Certify such test results are on file with the manufacturer and will be furnished to the GDOT Project Manager and Utility Owner upon demand.
3. The certification shall state/specify the name and address of the manufacturer and the testing agency and the date of tests; and sets forth the means of identification which shall permit field determination of the product delivered to the project as being the product covered by the certification.
4. Submit certification with two copies of the covered product to the GDOT Project Manager, and Utility Owner.
5. GDOT or the Utility Owner will not be responsible for any costs of certification or for any costs of the sampling and testing of products in connection therewith.
6. GDOT and the Utility Owner reserve the right to require samples and test products for compliance with pertinent requirements irrespective of prior certification of the products by the manufacturer. Any materials that fail to meet specification requirements will be rejected.
7. In accordance with the BUY AMERICA requirements of the Federal regulations (23 U.S.C. 313 and 23 CFR 635.410) all manufacturing processes for steel and iron products or predominantly of steel or iron (at least 90% steel or iron content) furnished for permanent incorporation into the work on this project shall occur in the United States. The only exception to this requirement is the production of pig iron and the processing, pelletizing and reduction of iron ore, which may occur in another country. Other than these exceptions, all melting, rolling, extruding, machining, bending, grinding, drilling, coating, etc. must occur in the United States.
   a. Products of steel include, but are not limited to, such products as structural steel piles, reinforcing steel, structural plate, steel culverts, guardrail steel supports for signs, signals and luminaires. Products of iron include, but are not limited to, such products as cast iron frames and grates and ductile iron pipe. Coatings include, but are not limited to, the applications of epoxy, galvanizing and paint. The coating material is not limited to this clause, only the application process.
   b. Records to be provided by the Contractor for this certification shall include a signed mill test report and a signed certification by each supplier, distributor, fabricator, and manufacturer that has handled the steel or iron product affirming that every process, including the application of a coating, performed on the steel or iron product has been carried out in the United States of America, except as allowed by this Section. The lack of these certifications will be justification for rejection of the steel and/or iron product or nonpayment of the work.
   c. The requirements of said law and regulations do not prevent the use of miscellaneous steel or iron components, subcomponents and hardware necessary to encase, assemble and construct the above products, manufactured products that are not predominantly steel or iron or a minimal use of foreign steel and iron materials if the cost of such materials used does not exceed one-tenth of one percent (0.1%) of the total contract price or $2,500.00, whichever is greater.

B. Hydrostatic Testing of Pressure Pipe

1. When the Utility Owner and GDOT Project Manager approve a section of pressure pipe for testing, the Contractor shall furnish the materials, equipment, and labor to conduct the pressure and leakage tests. Use a test pump, pressure gauge, and a means of measuring the water necessary to maintain the required pressure during the prescribed testing time. All pressure and leakage testing shall be done in the presence of the Utility Owner and GDOT Project Manager as a condition precedent to the approval and acceptance of the system. All pipes shall have been thoroughly flushed prior to testing. Simultaneous or separate pressure and leakage tests may be performed.
2. All water for testing and flushing shall be water provided by the Contractor, at no cost to the Utility Owner or GDOT, from an approved source. Flow velocity during line filling shall not exceed 2 feet (0.6 m) per second (fps).
3. Testing Requirements
    a. Force main testing shall be done immediately after installation and backfilling has been completed.
    b. Force mains shall be tested in accordance with the latest revision of AWWA C600 for ductile iron and C605 for PVC under an average hydrostatic pressure of the greater of 1.5 times the maximum working pressure or 150 psi as measured at the lowest point in the system for a minimum of 2 hours. Pressure shall be maintained until all sections under testing have been checked for evidence of leakage.
    c. While the system is being filled with water, air shall be carefully and completely exhausted. If permanent air vents are not located at all high points, the Contractor shall install corporation stops or fittings and valves at such points at no additional expense to the Utility so the air can be expelled as the pipe system is slowly filled.
    d. Makeup water shall be added, as required, to maintain the pressure within 5 psi of the test pressure. The quantity used shall be measured by pumping from a calibrated container. The maximum amount of makeup water allowed shall be determined by the following formula:

$$L = \frac{SD\ P^{0.5}}{148{,}000}$$

in which,

L = Allowable Leakage in gallons per hour

S = Length of pipe being tested in feet

D = Nominal pipe diameter in inches

P = Average test pressure during the test in psi gauge

    e. Visible leaks shall be corrected regardless of total leakage shown by test. All pipe fittings and other materials found to be defective under test shall be removed and replaced. Lines which fail to meet test requirements shall be repaired and retested as necessary until test requirements are met. No additional compensation shall be made for repairs or retesting.

C. Alignment Testing

1. Straight alignment of gravity sewers shall be checked by either using a laser beam or lamping. Each segment between manholes shall show at least 90% of the full pipe circle visible when looking from manhole to manhole.

D. CCTV Inspection

1. All new gravity sewers shall be inspected via closed-circuit televising (CCTV) in accordance with The Facility Owner's Standard Specifications. The Contractor shall thoroughly clean the entire sewer system by jetting or applicable methods prior to the TV inspection. If conditions indicate repairs are necessary, re-televising may be required. The initial inspection shall be scheduled with the Utility Owner and GDOT Project Manager when the Contractor advises that all sewer lines are ready for testing.

2. All TV inspections shall be performed by persons and/or firms qualified in such work.
3. The Contractor shall provide the TV inspection deliverables according to the format indicated in The Facility Owner's Standard Specifications.

E. Manhole Vacuum Testing

1. A vacuum test shall be performed on each manhole to assure water-tightness in accordance with ASTM C1244. The manholes shall be tested separately from sewer lines.
2. If the manhole fails the initial test, necessary repairs shall be made at the Contractor's expense and the manhole retested until a satisfactory test is obtained.

F. Deflection Testing

Utility Owner may require deflection tests utilizing a mandrel to be performed on flexible gravity sewer pipes. Deflection tests shall be conducted after the final backfill has been in place to permit stabilization of the soil-pipe system and follow the requirements of The Facility Owner's Standard Specifications. No mechanical pulling devices shall be used. All pipes not passing this mandrel shall be re-laid or replaced by the Contractor at no additional cost to GDOT or Utility Owner.

G. Leakage Testing

1. The Contractor shall conduct tests to determine the water-tightness of gravity sewers when completed. The Utility Owner shall observe the tests with the Contractor furnishing all required labor, equipment, and materials.
2. Sewers shall be tested in sections with each section extending between two adjacent manholes or from the end of the sewer to the nearest manhole. The Contractor shall utilize an infiltration test, an exfiltration test, or a low pressure air test at the direction of the Utility Owner and in accordance with The Facility Owner's Standard Specifications.
    a. Infiltration: Each section shall be covered with no less than two feet (0.6 m) of water above the top of the pipe at the highest point. The infiltration will be measured by means of a weir located in the downstream manhole. The pressure head of 2 feet (0.6 m) shall be maintained for a period of not less than 24 hours before the weir measurements are made.
    b. Exfiltration: The sewer at the upstream side of the lower manhole and the upstream side of upper manhole in each section shall be closed with a watertight bulkhead and the sewer filled with water until the water elevation in the upstream manhole is not less than two feet (0.6 m) above the top of the sewer pipe or two feet (0.6 m) above ground water elevation in the trench, whichever is higher. The exfiltration will be determined by measuring the amount of water required to maintain the above stated water elevation for a period of one hour from the start of the test. The entire length of section to be tested shall be filled and maintained full of water for a period of approximately 24 hours prior to the start of the test.
    c. The amount of exfiltration or infiltration shall not exceed 50 gallons per inch of pipe diameter per 24 hours per mile of sewer in each and every section tested in accordance with the above.
    d. In the event the allowable leakage rates are not met, the Contractor shall determine the location(s) where excess water is entering or leaving the sewer. The sewer and/or the manholes shall be repaired and retested until the leakage in the sewer is within the allowable limits.
3. Air test: Low pressure air testing shall be completed to detect leaks in sewers where hydrostatic testing is not practical. The Contractor shall perform the low pressure air test as specified in ASTM C924 for concrete and Uni-Bell UNI-B-6-98 for plastic pipe.

660.3.07 Contractor Warranty and Maintenance

General Provisions 101 through 150.

660.4 Measurement

Incidentals including excavation, rock removal, backfilling, flushing, testing, temporary water connections, pavement removal, pavement replacement, and other incidentals required for the installation of sanitary sewer items are not measured for separate payment and shall be included in the applicable Pay Items below. Gravity sewer mains, manholes, force mains, and laterals, and associated items of work in this Specification, complete, in place, and accepted, are measured for payment as follows:

A. Ductile Iron Sewer Main

Ductile iron sewer mains shall be measured in linear feet (meters) for each size and thickness class installed. Measurement shall be horizontally above the centerline of the pipe and shall include the length of valves and fittings.

B. PVC Sewer Force Main

PVC sewer mains shall be measured in linear feet (meters) for each size and thickness installed. Measurement shall be horizontally above the centerline of the pipe and shall include the length of valves and fittings.

C. PVC Sewer Gravity Main

PVC sewer mains shall be measured in linear feet (meters) for each size and thickness installed. Measurement shall be horizontally above the centerline of the pipe and shall include the length of valves and fittings.

D. Fusible PVC Sewer Main

Fusible PVC sewer mains shall be measured in linear feet (meters) for each size and type installed. Measurement shall be horizontally above the centerline of the pipe and shall include the length of valves and fittings.

E. HDPE Sewer Main

HDPE sewer mains shall be measured in linear feet (meters) for each size and type installed. Measurement shall be horizontally above the centerline of the pipe and shall include the length of valves and fittings.

F. Concrete Sewer Main

Concrete sewer mains shall be measured in linear feet (meters) for each size and type installed. Measurement shall be horizontally above the centerline of the pipe and shall include the length of valves and fittings.

G. Ductile Iron Fittings

Ductile iron fittings shall be included in the overall pipe measurements acceptably installed. This Item includes, but is not limited to, wyes, tees, bends, crosses, sleeves, plugs and caps, and reducers.

H. Restrained Joints

Joint restraints used with the installation of PVC or ductile iron pipe shall be included in the overall pipe measurements acceptably installed on the number of each size restraint device installed.

I. Manholes

Manholes shall be measured on an individual basis on the depth and type of manhole acceptably installed in accordance to Section 668.

I. Drop Manholes

Drop Manholes shall be measured on an individual basis on the depth and type of manhole acceptably installed in accordance to Section 668.

J. Connection to Existing Manholes

Connections to existing manholes shall be included in the Contract price for sewer line connection acceptably installed.

K. Gate Valves

Gate valves shall be measured on an individual basis for each size valve and box assembly acceptably installed.

L. Check Valves

Check valves shall be measured on an individual basis on the number of each size valve and box assembly acceptably installed.

M. Plug Valves

Plug valves shall be measured on an individual basis on the number of each size valve and box assembly acceptably installed.

N. Tapping Sleeve and Valve Assembly

Tapping sleeve and valve assemblies shall be measured on an individual basis on the number of each size tapping sleeve and valve assembly acceptably installed.

O. Sewer Laterals

Sewer laterals shall be measured on an individual basis on the size of lateral acceptably installed.

P. Cleanouts

Sewer laterals shall be measured on an individual basis on the number of each cleanout acceptably installed.

Q. Air Release Valve Assemblies

Air release valve assemblies shall be measured on an individual basis on the number of each size and type of air release valve assembly acceptably installed.

R. Steel Casing

Steel casing pipe of the wall thickness and diameter specified shall be measured by the linear foot for each size and thickness of steel casing pipe installed. Measurement shall be horizontally above the centerline of the casing.

S. Relocation of Existing Air Release Valves

Relocation of existing air release valves shall be measured on an individual basis on the number of each acceptably relocated.

T. Adjustment of Existing Valve Boxes to Grade

Adjustment of existing valve boxes adjusted to grade in their original locations shall be measured on an individual basis on the number of each valve box acceptably adjusted in accordance with section 611.

U. Removal of Air Release Valves

Removal of existing air release valves shall be measured on an individual basis on the number of each removed.

V. Removal of Manholes

Removal of existing manholes shall be measured on an individual basis on the number of each manhole removed in accordance to Section 610.

W. Adjustment of Manholes

Adjustment of existing manholes adjusted to grade in their original locations shall be measured on an individual basis on the number of each manhole acceptably adjusted in accordance to Section 611.

X. Reconstruct Manhole

Reconstruction of existing manholes to grade in their original locations shall be measured on an individual basis on the number of each acceptably reconstructed manhole in accordance to Section 611.

Y. Adjustment of Cleanout

Adjustment of cleanouts to grade shall be measured on an individual basis on the number of each cleanout acceptably adjusted in accordance to Section 611.

Z. Concrete Thrust Blocks

Concrete thrust blocking installed shall be measured as indicated in Section 500 per cubic yard of concrete acceptably installed. When Concrete Thrust Blocks is not shown as a pay item, include the cost of the work in the bid price for the sewer pipe.

AA. Concrete Thrust Collars

Thrust collars shall be measured on an individual basis on the number of each size thrust collar acceptably installed. When Concrete Thrust Collars is not shown as a pay item, include the cost of the work in the bid price for the sewer pipe.

BB. Cut and Plug Sewer Main

Cutting and plugging of sewer mains shall be measured on an individual basis per each instance of cutting and plugging existing mains as shown on the Plans.

CC. Removal of Sewer Mains

Removal of sewer mains shall be measured per linear foot for each size pipe actually removed in accordance to Section 610. Measurement shall be horizontally above the centerline of the pipe removed and shall include the length of valves and fittings.

DD. Line Stop

Line stops shall be measured on an individual basis on the number of each size line stop actually installed.

EE. Flowable Fill

Flowable fill shall be measured as indicted in Section 600 per cubic yard of flowable fill acceptably installed. When flowable fill is not shown as a pay item, include the cost of the work in the bid price for the appropriate item.

FF. Cured-In-Place-Pipe (CIPP) Liners

CIPP liners shall be measured per linear foot for each size CIPP installed. Measurement shall be horizontally above the centerline of the host pipe from center of manhole to center of manhole.

GG. Insertion Valve

Insertion valves shall be measured on an individual basis on the number of each size valve acceptably installed.

HH. Closed Circuit Television (CCTV) Inspection

CCTV inspection shall be measured per linear foot of CCTV inspection price to be included in the Contract price for sewer pipe acceptably performed.

II. Three-Dimensional (3D) Survey

Three-dimensional survey shall be measured as one lump sum for a complete and accepted survey price to be included in the Contract price for sewer pipe acceptably performed.

660.4.01 Limits

General Provisions 101 through 150.

660.5 Payment

The Contract Unit Price for each Item, complete and accepted, shall include all costs incidental to the construction of the item according to the Plans and as specified in this Section. The unit prices bid shall include due allowance for the salvage value of all materials removed from existing or temporary lines and not installed in the completed work. All such surplus items shall become the property of the Contractor unless such surplus items are specified to be salvaged.
Payment for any item listed below is full compensation for the Item or Items complete in place.

A. Ductile Iron Sewer Mains

Ductile iron sewer mains shall be paid for at the unit price per linear foot for each diameter pipe installed and shall cover

the cost for all materials, transportation, labor, equipment, excavation, sheeting and shoring, installation of pipe, joints and jointing materials, anchoring, warning tape, polyethylene encasement, protection of existing utilities, connections to existing mains, flushing, backfilling, backfill materials, disposal of unsuitable backfill material, clean backfill, tamping, testing, densities, utility crossings, dewatering, trench stabilization, clean-up, restoration, and all work and materials necessary to place the pipe into service.

B. PVC Force Main

PVC sewer mains shall be paid for at the unit price per linear foot for each diameter and thickness pipe installed and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheeting and shoring, installation of pipe, joints and jointing materials, anchoring, tracer wire, warning tape, protection of existing utilities, connections to existing mains, flushing, backfilling, backfill materials, disposal of unsuitable backfill material, clean backfill, tamping, testing, densities, utility crossings, dewatering, trench stabilization, clean-up, restoration, and all work and materials necessary to place the pipe into service.

C. PVC Gravity Main

PVC sewer mains shall be paid for at the unit price per linear foot for each diameter and thickness pipe installed and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheeting and shoring, installation of pipe, joints and jointing materials, tracer wire, warning tape, protection of existing utilities, connections to existing mains, flushing, backfilling, backfill materials, disposal of unsuitable backfill material, clean backfill, tamping, testing, densities, utility crossings, dewatering, trench stabilization, clean-up, restoration, and all work and materials necessary to place the pipe into service.

D. Fusible PVC Sewer Main

Fusible PVC sewer mains shall be paid for at the unit price per linear foot for each diameter pipe installed and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheeting and shoring, entry/exit pits, installation of pipe, joints and jointing materials, tracer wire, warning tape, mechanical joint adapters, protection of existing utilities, connections to existing sewer mains, fusion process materials and equipment, directional drilling materials and equipment, tracking system, assembling, welding, supporting, stringing, pulling, pigging, cleaning, flushing, backfilling, backfill materials, disposal of unsuitable backfill material, clean backfill, tamping, testing, densities, utility crossings, dewatering, trench stabilization, clean-up, and restoration, and all incidentals necessary to place the pipe into service except where such items are shown to be paid for under a separate Pay Item.

E. HDPE Sewer Main

HDPE sewer mains shall be paid for at the unit price per linear foot for each diameter pipe installed and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheeting and shoring, entry/exit pits, installation of pipe, tracer wire, warning tape, mechanical joint adapters, protection of existing utilities, connections to existing mains, fusion process materials and equipment, directional drilling materials and equipment, tracking system, assembling, welding, supporting, stringing, pulling, pigging, cleaning, flushing, backfilling, disposal of unsuitable backfill material, clean backfill, tamping, testing, densities, utility crossings, dewatering, trench stabilization, clean-up, and restoration, and all incidentals necessary to place the pipe into service except where such items are shown to be paid for under a separate Pay Item.

F. Concrete Sewer Main

Concrete sewer mains shall be paid for at the unit price per linear foot for each diameter pipe installed and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheeting and shoring, installation of pipe, anchoring, tracer wire, warning tape, protection of existing utilities, connections to existing mains, flushing, backfilling, backfill materials, disposal of unsuitable backfill material, clean backfill, tamping, testing, densities, utility crossings, dewatering, trench stabilization, clean-up, restoration, and all work and materials necessary to place the pipe into service.

G. Ductile Iron Fittings

Ductile iron fittings will not be paid for separately but shall be included in the overall pipe measurements acceptably installed each fitting as denoted in the manufacturers' catalogues and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheeting and shoring, installation of fittings, joints and jointing materials, anchoring,

warning tape, polyethylene encasement, protection of existing utilities, flushing, backfilling, backfill materials, disposal of unsuitable backfill material, clean fill, tamping, testing, densities, utility crossings, dewatering, trench stabilization, clean-up, restoration, all other related and necessary materials, work, and equipment required to install a complete and operable pipeline fitting. This Item includes, but is not limited to, wyes, tees, bends, crosses, sleeves, plugs and caps, couplings, and reducers.

H. Restrained Joints

Restrained joints not be paid for separately but shall be included in the overall pipe measurements acceptably installed each fitting as denoted and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheeting, shoring, installation of the restraint device, polyethylene encasement, protection of existing utilities, backfilling, backfill material, disposal of unsuitable backfill materials, clean fill, tamping, testing, densities, utility crossings, dewatering, trench stabilization, clean-up, restoration, and all work and materials necessary to install the restrained joint.

I. Gate Valves

Gate valves shall be paid for at the unit price per each size gate valve and box assembly installed and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheeting and shoring, installation of the gate valves including valve box, concrete pad or collar, valve identification disc, valve marker, valve tag, polyethylene encasement, protection of existing utilities, backfilling, backfill material, disposal of unsuitable backfill materials, clean fill, tamping, testing, densities, utility crossings, dewatering, trench stabilization, clean-up, restoration, and all work and materials necessary to install the gate valve and place it in service.

J. Plug Valves

Plug valves shall be paid for at the unit price per each size plug valve and box assembly installed and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheeting and shoring, installation of the butterfly valves (including valve box), concrete pad or collar, valve identification disc, valve marker, valve tag, polyethylene encasement, protection of existing utilities, backfilling, backfill material, disposal of unsuitable backfill materials, clean fill, tamping, testing, densities, utility crossings, dewatering, trench stabilization, clean-up, restoration, and all work and materials necessary to install the plug valve and place it in service.

K. Check Valves

Check valves shall be paid for at the unit price per each size check valve and box assembly installed and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheeting and shoring, installation of the check valves, concrete vault or manhole, concrete pad or collar, valve identification disc, valve marker, valve tag, polyethylene encasement, protection of existing utilities, backfill material, disposal of unsuitable backfill materials, clean fill, tamping, testing, densities, utility crossings, dewatering, trench stabilization, clean-up, restoration and all work and materials necessary to install the check valve and place it in service.

L. Tapping Sleeve and Valve Assembly

Tapping sleeve and valve assemblies shall be paid for at the unit price per each size tapping sleeve and valve assembly installed and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheeting and shoring, installation of tapping sleeves and valve assemblies including valve box, concrete pad or collar, valve marker, polyethylene encasement, protection of existing utilities, tapping the force main, backfilling, backfill material, disposal of unsuitable backfill materials, clean fill, tamping, testing, densities utility crossings, dewatering, trench stabilization, clean-up, restoration, and all work and necessary hardware to install the tapping sleeve and valve assembly and place it in service.

M. Manholes

Sanitary sewer manholes shall be paid for at the unit price in accordance to Section 668 ,according to the depth and type of each manhole installed and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheeting and shoring, installation of manholes including ring and covers, inverts, coatings, protection of existing utilities, backfill material, disposal of unsuitable backfill materials, clean fill, tamping, testing, densities, utility crossings, dewatering, trench stabilization, clean-up, restoration, and all work and materials necessary to install the manhole and place into service.

N. Drop Manholes

Sanitary sewer drop manholes shall be paid for at the unit price per each manhole installed in accordance to Section 668 and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheeting and shoring, installation of manholes including ring and covers, inverts, coatings, outside drop piping and fittings, concrete encasement, protection of existing utilities, backfill material, disposal of unsuitable backfill materials, clean fill, tamping, testing, densities, utility crossings, dewatering, trench stabilization, clean-up, restoration, and all work and materials necessary to install the manhole and place into service.

O. Connections to Existing Manholes

Connections to existing manholes shall be paid for in the Contract Price for sewer pipe and shall cover the cost for all material, transportation, labor, equipment, excavation, sheeting and shoring, installation of manhole connection, rework of inverts, grout, coatings, protection of existing utilities, backfill material, disposal of unsuitable backfill materials, clean fill, tamping, testing, densities, utility crossings, dewatering, trench stabilization, clean-up, bypass pumping (as required), restoration, and all work and materials necessary to acceptably install the manhole connection.

P. Sewer Laterals

Sewer laterals shall be paid for at the unit price per size of each size installed to the property line and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheeting and shoring, piping, installation of sewer lateral including connection to existing pipe, cleanout, cleanout marker, fittings including wyes, bends, pipe, cap with screw plug, tracer wire, casting, concrete collar or pad, valve box and cover, bypass pumping (as required), protection of existing utilities, backfilling, backfill materials, disposal of unsuitable backfill material, clean fill, tamping, testing, densities, utility crossings, dewatering, trench stabilization, clean-up, restoration, and all work and materials necessary to place the sewer lateral into service.

Q. Cleanouts

Sewer cleanouts shall be paid for at the unit price per each cleanout installed and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheeting and shoring, piping, installation of cleanout including connection to existing pipe, fittings including wyes, bends, pipe, cap with screw plug, tracer wire, casting, concrete collar or pad, valve box and cover, bypass pumping (as required), protection of existing utilities, backfilling, backfill materials, disposal of unsuitable backfill material, clean fill, tamping, testing, densities, utility crossings, dewatering, trench stabilization, clean-up, restoration, and all work and materials necessary to place the cleanout into service.

R. Air Release Valve Assembly

Air release valves shall be paid for at the unit price per each size and type of air release valve installed and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheeting and shoring, installation of the air release assembly, tapping saddle, isolation valve, reducers, piping, restraints, fittings, tracer wire, concrete manhole or vault, protection of existing utilities, backfilling, backfill materials, disposal of unsuitable backfill material, clean fill, tamping, testing, densities, utility crossings, dewatering, trench stabilization, clean-up, restoration, and all work and materials necessary to place the air release assembly into service.

S. Steel Casing

Steel casing pipe shall be paid for at the unit price per linear foot according to the diameter and thickness of the steel casing installed and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheeting and shoring, protection of existing utilities, steel casing pipe, skid, steel straps, coatings, casing spacers, end seals, boring and jacking pits, backfilling, backfill materials, disposal of unsuitable backfill material, clean fill, tamping, testing, densities, dewatering, trench stabilization, clean-up, restoration, and all work and materials necessary to install the steel casing except where such items are shown to be paid for under a separate Item. The carrier pipe shall be paid for as a separate Pay Item.

T. Relocation of Existing Air Release Valves

Relocation of air release valves shall be paid for at the unit price per each air release valve assembly relocated and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheet and shoring, removal of existing air

release valve assembly, installation at location indicated in Plans, piping, restraints, tracer wire, fittings, adjustment to final grade, polyethylene encasement, protection of existing utilities, backfilling, backfill material, disposal of unsuitable backfill materials, clean fill, tamping, testing, densities, dewatering, trench stabilization, clean-up, restoration, and all work necessary to locate, remove, and relocate the air release valve except where such items are shown to be paid for under a separate Pay Item.

U. Adjustment of Existing Valve Boxes to Grade

Adjustment of existing valve boxes shall be paid for which shall be paid for in accordance with Section 611, at the unit price per each valve box adjusted to final grade and shall cover the cost of all materials, transportation, labor, equipment, excavation, sheeting and shoring, valve case and lid, trench adapter and operating nut extensions/reductions, tracer wire and splices, tracer wire riser and threaded plug, concrete pad, valve identification disc, backfilling, backfill material, disposal of unsuitable backfill materials, clean fill, tamping, testing, densities, dewatering, trench stabilization, clean-up, restoration, and all work and materials necessary to adjust the valve box.

V. Adjustment of Existing Manhole

Manhole tops to be raised or lowered 2 feet (0.6 m) or less are considered adjustment of existing manholes, which shall be paid for in accordance with Section 611, at the unit price per each manhole adjusted to final grade and shall cover the cost of all materials, including new ring and covers for sanitary manholes, transportation, labor, equipment, plugs, riser sections, brick and mortar, adjustment rings, excavation, sheeting and shoring, backfilling, backfill material, disposal of unsuitable backfill materials, clean fill, tamping, testing, densities, dewatering, trench stabilization, clean-up, bypass pumping (as required), restoration, and all work and materials necessary to install the new ring and cover and adjust to final grade.

W. Reconstruct Existing Manhole

Manhole tops to be raised between 2 feet (0.6 m) and 6 feet (1.5 m), or tops to be lowered more than 2 feet (0.6 m) are considered the reconstruction of an existing manhole, which shall be paid for which shall be paid for in accordance with Section 611, at the unit price per each manhole adjusted to final grade and shall cover the cost of all materials, including new ring and covers for sanitary manholes, transportation, labor, equipment, plugs, riser sections, brick and mortar, excavation, sheeting and shoring, backfilling, backfill material, disposal of unsuitable backfill materials, clean fill, tamping, testing, densities, dewatering, trench stabilization, clean-up, bypass pumping (as required), restoration, and all work and materials necessary to reconstruct the manhole. Tapping a new pipeline into an existing manhole is not considered reconstruction.

X. Adjustment of Cleanout

Adjustment of cleanouts shall be paid for at the unit price per each cleanout adjusted to finished grade and shall cover the cost of all materials, including transportation, labor, equipment, excavation, sheeting and shoring, backfilling, backfill material, disposal of unsuitable backfill materials, clean fill, tamping, testing, densities, dewatering, trench stabilization, clean-up, bypass pumping (as required), restoration, and all work and materials necessary to adjust the cleanout to final grade.

Y. Removal of Manhole

Removal of manholes shall be paid for which shall be paid for in accordance with Section 610, at the unit price per each manhole removed and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheet and shoring, protection of existing utilities, backfilling, backfill material, disposal of unsuitable backfill materials, clean fill, tamping, testing, densities, dewatering, trench stabilization, clean-up, bypass pumping (as required), restoration, and all work necessary to remove and dispose of manholes including ring and covers.

Z. Removal of Air Release Valve

Removal of air release valves shall be paid for which shall be paid for in accordance with Section 610, at the unit price per each air release valve removed and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheeting and shoring, removal of air release valve assemblies, piping, manholes, concrete vaults and fabricated enclosures, backfilling, backfill materials, disposal of unsuitable backfill materials, clean fill, tamping, testing, densities, dewatering, trench stabilization, clean-up, restoration, storage and delivery of air release valves identified to be salvaged,

and all work necessary to remove the air release valve.

AA. Concrete Thrust Blocks

Concrete thrust blocks shall be paid for at the unit price per cubic yard of concrete complete in place as indicated in Section 500 and shall cover the cost of all materials, transportation, labor, equipment, excavation, sheeting and shoring, concrete, forming, reinforcement, protection of existing utilities, backfilling, backfill material, disposal of unsuitable backfill materials, clean fill, tamping, testing, densities, dewatering, trench stabilization, clean-up, restoration, and all work and materials necessary to install a complete thrust block. Concrete Thrust Blocks is not shown as a pay item; include the cost of the work in the bid price for the sewer pipe.

BB. Concrete Thrust Collars

Concrete thrust collars shall be paid for at the unit price per each size of thrust collar and shall cover the cost of all materials, transportation, labor, equipment, excavation, sheeting and shoring, reinforced concrete thrust collars, retainer glands, reinforcement, protection of existing utilities, backfilling, backfill material, disposal of unsuitable backfill materials, clean fill, tamping, testing, densities, dewatering, trench stabilization, clean-up, restoration, and all work and materials necessary to install a complete thrust collar. Concrete Thrust Collars is not shown as a pay item; include the cost of the work in the bid price for the sewer pipe.

CC. Removal of Sewer Mains

Removal of sewer mains shall be paid for which shall be paid for in accordance with Section 610, at the unit price per linear feet (meters) of the size of sewer main to be removed and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheeting and shoring, protection of existing utilities, backfilling, backfill material, disposal of unsuitable backfill materials, clean fill, tamping, testing, densities, dewatering, trench stabilization, clean-up, bypass pumping (as required), restoration, and all work and materials necessary to locate, remove and dispose of the pipe and associated appurtenances. Unless indicated for removal as a separate Pay Item, appurtenances to be removed shall include but not be limited to fittings, isolation valves, air release valves, valve boxes, steel casings, casing spacers, service laterals, thrust blocks, and concrete. All such surplus items shall become the property of the Contractor unless specified to be salvaged by the Utility Owner.

DD. Cut and Plug Existing Sewer Main

Cutting and plugging of existing sewer mains shall be paid for at the unit price per each installation and shall cover all materials, transportation, labor, equipment, excavation, sheeting and shoring, protection of existing utilities, backfilling, backfill material, disposal of unsuitable backfill materials, clean fill, tamping, testing, densities, dewatering, trench stabilization, clean-up, restoration, and all work and materials necessary to cut and plug existing sewer mains except where such items are shown to be paid for under a separate Pay Item.

EE. Line Stops

Line stops shall be paid for at the unit price per each size line stop installed and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheeting and shoring, installation of the line stop assemblies, valves, valve boxes, fittings, restraints, protection of existing utilities, backfilling, backfill material, disposal of unsuitable backfill materials, tamping, testing, densities, utility crossings, dewatering, trench stabilization, clean-up, restoration, and all work and materials necessary to install the gate valve and place it in service.

FF. Flowable Fill

Flowable fill shall be paid for at the unit price per cubic yard of flowable fill installed as indicated in Section 600 and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheeting and shoring, flushing, plugging air release valves and service connections, installation of flowable fill, protection of existing utilities, backfilling, backfill material, disposal of unsuitable backfill materials, clean fill, tamping, testing, densities, dewatering, trench stabilization, clean-up, restoration, and all work and materials necessary to complete the installation. When flowable fill is not shown as a pay item for the sewer items, include the cost of the work in the bid price for the appropriate item.

GG. Cured-In-Place-Pipe (CIPP) Liner

CIPP liners shall be paid for at the unit price per linear foot and diameter of liner acceptably installed and shall cover the cost for all materials, transportation, labor, equipment, bypass pumping, cleaning, root removal, flushing, coordination with and protection of existing utilities, distributing project notices, removal of protruding service connections, supplying and installing liner, reinstatement of service connections, inspection, testing, clean-up, restoration, and all work and materials necessary to complete the liner installation including incidentals and associated labor for which payment is not provided under a separate Pay Item. Point repairs shall be paid for under the unit price per linear foot of the diameter and material of pipe being replaced.

HH. Insertion Valve

Insertion valves shall be paid for at the unit price per each size valve inserted and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheeting and shoring, installation of the valve, valve boxes, fittings, restraints, concrete pad or collar, valve identification disc, valve marker, polyethylene encasement, protection of existing utilities, backfilling, backfill material, disposal of unsuitable backfill materials, clean fill, tamping, testing, densities, dewatering, trench stabilization, clean-up, restoration, and all work and materials necessary to install the insertion valve and place it in service.

II. Closed Circuit Television (CCTV) Inspection

CCTV inspection shall be included in the Contract price for sewer pipe inspection acceptably performed and shall cover the costs for all materials, transportation, labor, equipment, excavation, sheeting, shoring, bypass pumping, protection of existing utilities, CCTV inspection, CDs / DVDs, inspection reports, clean-up, restoration, and all work and materials necessary to perform the CCTV inspection.

JJ. Three-Dimensional (3D) Survey

Three-dimensional survey shall be price to be included in the Contract price for sewer pipe, and shall cover the costs for all non-destructive methods of locating installed utilities and associated electronic deliverables per Utility Owner specifications.

Payment will be made under:

Item No. 660	Sewer Force Main, _____in (mm)	Per linear foot (meter)
Item No. 660	Sewer Gravity Main, _____in (mm)	Per linear foot (meter)
Item No. 660	Sewer Main, Ductile Iron, _____in (mm)	Per linear foot (meter)
Item No. 660	Sewer Main, Fusible PVC, _____in (mm)	Per linear foot (meter)
Item No. 660	Sewer Main, HDPE,_____in (mm)	Per linear foot (meter)
Item No. 660	Sewer Main, Concrete, _____in (mm)	Per linear foot (meter)
Item No. 660	Cured-in-Place Pipe (CIPP) Liner, _____in (mm)	Per linear foot (meter)
Item No. 660	Sewer Main, _____in (mm)	Per linear foot (meter)
Item No. 660	Steel Casing, in (mm)	Per linear foot (meter)
Item No. 660	Cleanouts, in (mm)	Per each
Item No. 660	Tapping Sleeve and Valve Assembly, in (mm)	Per each
Item No. 660	Relocation of Existing Air Release Valve Assembly, _____in (mm)	Per each
Item No. 660	Removal of Air Release Valve, _____in (mm)	Per each
Item No. 660	Cut and Plug Sewer Main, _____in (mm)	Per each

Item No. 660	Concrete Thrust Collar, _____in (mm)		Per each
Item No. 660	Gate Valve,	in (mm)	Per each
Item No. 660	Check Valve,	in (mm)	Per each
Item No. 660	Plug Valve,	in (mm)	Per each
Item No. 660	Insertion Valve,	in (mm)	Per each
Item No. 660	Air Release Valve Assembly,	in (mm)	Per each
Item No. 660	Sewer Lateral,	in (mm)	Per each
Item No. 660	Line Stop,	in (mm)	Per each

660.5.01 Adjustments

General Provisions 101 through 150.

DEPARTMENT OF TRANSPORTATION

STATE OF GEORGIA

SPECIAL PROVISION

PROJECT: FY 17 Bridge Replacement

COUNTY: Dodge, Dooly, Colquitt, Quitman, Echols, Thomas

PI NO:0015524

Add the following:

Section 663 - Electric Transmission Systems

663.1 General Description

This Work consists of furnishing material, labor, tools, equipment, and other items necessary for the installation, relocation, and adjustment of overhead and underground electric transmission systems in accordance with the Project plans, Job Specification Book, and Specifications. Correct all deficiencies in the Work indicated by testing, inspecting, and as directed by the Engineer.

663.1.01 Definitions

General Provisions 101 through 150

Whenever the terms “Company” or “Georgia Power Company” are used in this Special Provision and its related documents, they mean Georgia Power Company, Inc., its subsidiaries, successors and/or assigns. Whenever the term “Plan” is used in this Special Provision and related documents, this includes the Electric Transmission Relocation Plans. The term “Southern Company” is synonymous with Georgia Power Company.

The term “Transmission Engineer” means the Company’s authorized individual having the authority to give instructions pertaining to the Work. The Transmission Engineer has authority to approve or reject the Work and otherwise represent the Company. The “Transmission Engineer” is not authorized to revoke, alter, enlarge, relax, or release any requirements of the Contract, Plans, and Specifications nor will they act as an agent for the Contractor. Ensure Transmission Engineer has access to all of the Work for inspection and testing. Ensure Transmission Engineer attends Closing Conference and Final Inspection.

During emergency situations involving the Company’s facilities, such as weather related incidents or power outages, or for system maintenance, the Transmission Engineer has the authority to direct the Work and to add Company crews as necessary. Additional items required for any emergency work, power outages, or system maintenance will be addressed as specified in Section 104.03 Alteration of Plans or Character of Work.

663.1.02 Related References

General Provisions 101 through 150

A. Standard Specifications

Section 201-Clearing and Grubbing

Section 205-Roadway Excavation

Section 207-Excavation and Backfill for Minor Structures

Section 208-Embankments

Section 209-Subgrade Construction

Section 310-Graded Aggregate Construction

Section 400-Hot Mix Asphaltic Concrete Construction

Section 441-Miscelaneous Concrete

Section 500-Concrete Structures

Section 852-Miscellaneous Steel Materials

Section 861-Piling and Round Timber

Section 863-Preservative Treatment of Timber Products

B. Related Documents

1. Core Function, Line Design Segment of the Southern Company Transmission Playbook (online)
2. National Electric Safety Code, ANSI – C2 (NESC)
   Available from the Institute of Electrical and Electronics Engineers
   http://www.ieee.org/portal/site/iportals/

For access to and copies of the Related Documents, please contact:

Georgia Power Company
Mr. Mark Tilden
Bin 10140
241 Ralph McGill Boulevard, NE
Atlanta, Georgia 30308-3374
404-506-4203

If there is a conflict or discrepancy between the Specifications and the Core Function, Line Design Segment of the Southern Company Transmission Playbook or the National Electric Safety Code, perform the Work in accordance with the Core Function, Line Design Segment of the Southern Company Transmission Playbook and National Electric Safety Code, current editions. If the Southern Company Standards and National Electric Safety Codes are revised after notice to contractors date, perform the Work specified in the Plans, Job Specification Book, and Specifications using the revised standards and codes. If revisions to the Southern Company Standards and National Electric Safety Codes are dated on or after the letting date shown on the bid proposal, notify the Engineer in writing of such revisions.

663.1.03 Submittals

General Provisions 101 through 150

Refer to the Core Function, Line Design Segment of the Southern Company Transmission Playbook, current published edition, for electric utility submittal requirements.

A. Completion Letter and As-Built Documentation

Provide no later than 30 days after the completion of the work a Completion Letter and As-Built Documentation to both the Engineer and the Contract Coordinator consisting of the following information.

1. Include in the Completion Letter the date all electrical transmission pay items are completed and ready to be turned over to the Company. Also, include a detailed estimate of quantities in place and explanation of any deviations or overruns.
2. Provide As-Built Documentation of the in-place and accepted electrical transmission facilities. Documentation shall consist of two sets of full size plans and electronic files in the form of a Bentley MicroStation file using the same version and format in which the Electrical Transmission Plans were created.

663.2 Materials

A. Overhead and Underground Electric Transmission System

Any new materials required for the construction of proposed electric facilities shown on the Plans and listed in the Job Specification Book are to be purchased by the Contractor from Georgia Power Company. When required by the Plans and Job Specification Book, transfer all existing materials to the required locations as specified. Replace in-kind any material damaged during transfer.

Any other materials needed to complete the electric transmission system installation shall be transferred from the existing locations specified in the Plans. Incidental materials required to complete the Work will be supplied by the Contractor. Ensure all materials used are in conformance with the requirements and standards set forth in the Core Function, Line Design Segment of the Southern Company Transmission Playbook. Items required for the Work but not shown in the Plans or the Job Specification Book will require the review and approval by the Engineer and Transmission Engineer prior to incorporating such material into the Work. If there are revisions to the Work, the Company will provide a revised material list. The additional items required for the Work will be addressed as specified in Section 104.03 Alteration of Plans or Character of Work.

Because Georgia Power Company is supplying materials necessary for the Work, do not request a Materials Allowance as provided for in Section 109.07 Partial Payments

663.2.01 Delivery, Storage, and Handling

General Provisions 101 through 150

Coordinate with the Georgia Power Company representative listed below to ensure all necessary materials are available for installation as required on the Plans, including the roadway staging plans. Follow any delivery, storage and handling procedures set forth in the Core Function, Line Design Segment of the Southern Company Transmission Playbook. Coordinate with Georgia Power Company to take delivery of required material, load required material, and transport all required material to the project. All of the material may be received by Georgia Power Company at once or receipt can be made on an as needed basis. If material storage is required, properly store the material at pre-approved locations within the project limits or at pre-approved locations off the project limits. Return or dispose of all unused and remaining material as detailed in subsection 663.3.05.H.

The Contractor is responsible for all materials from the time of delivery from Georgia Power Company to the return of remaining materials to Georgia Power Company or disposal. When all Work is complete, the Transmission Engineer, in the presence of the Engineer and Contractor, will field verify and document the Work's in-place material. From the Transmission Engineer's field work, verify with the Engineer and Transmission Engineer material quantities used are in-line with what was taken from the Company and what was returned to the Company.

Georgia Power Company
Mr. Mark Tilden
Bin 10140
241 Ralph McGill Boulevard, NE
Atlanta, Georgia 30308-3374
404-506-4203

663.3 Construction Requirements

663.3.01 Personnel

General Provisions 101 through 150

Ensure the construction and installation of all electric transmission facilities is performed by a subcontractor who is prequalified with Georgia Power Company and is registered with the Department. Contact the Georgia Power Company representative listed below to obtain a list of prequalified electric contractors. Electric contractors not prequalified with Georgia Power Company will not be registered and approved as a subcontractor for the Department. Ensure the transmission contractor selected for the bidding process is prequalified with Georgia Power Company.

Georgia Power Company
Mr. Mark Tilden
Bin 10140
241 Ralph McGill Boulevard, NE
Atlanta, Georgia 30308-3374
404-506-4203

663.3.02 Equipment

General Provisions 101 through 150

Ensure all equipment used is in conformance with the requirements and standards set forth in the Core Function, Line Design Segment of the Southern Company Transmission Playbook, current edition. Obtain prior approval from the Engineer before starting Work on specialty items such as boring equipment and others of similar complexity.

663.3.03 Preparation

General Provisions 101 through 150

Follow all preparation procedures set forth in the Core Function, Line Design Segment of the Southern Company Transmission Playbook. Perform necessary preliminary engineering, field engineering, survey, and construction staking and layout for the installation of the specified electric transmission system.

663.3.04 Fabrication

General Provisions 101 through 150

Ensure fabrication procedures and requirements conform to those set forth in Core Function, Line Design Segment of the Southern Company Transmission Playbook. Submit shop drawings to the Engineer and Transmission Engineer for any items requiring fabrication. Obtain approval from the Engineer and Transmission Engineer prior to ordering materials.

For projects with joint use poles, coordinate with the Transmission Engineer, Engineer, pole owner, and attaching utility owners. Prior to fabrication, obtain approval of shop drawings from the Transmission Engineer, Engineer, pole owner, and attaching utility owners. If poles are supplied by the pole owner, provide the necessary design information including attachment heights and loads to the pole owner. Coordinate with all parties to ensure the poles meet the requirements of the Plans and Specifications, can accommodate the attaching owner's requirements, and comply with the pole owner's standards.

663.3.05 Construction

Review the Plans and Job Specification Book to ensure all items required for the Work are included in the price bid for each electric transmission bid item. Provide a detailed list of materials required to complete the Work to the Engineer and Transmission Engineer prior to ordering and taking delivery from Georgia Power Company. In the required detailed list of materials, identify any material required to complete the Work not shown in the Plans or in the Job Specification Book. The contractor will need to confirm that all easements have been acquired and dependent activities have been completed before any work can commence in the affected areas.

A. Permission to Enter Private Property

Comply with Section 107—Legal Regulations and Responsibility to the Public.

Through an agreement between the Department and the Company; the Contractor is given the permission to enter upon private properties found outside the project's construction limits. This permission is granted for the sole purpose of activities relating to the installation and/or adjustments of transmission facilities only and is limited to the area of existing easements obtained by the company. Such permission to enter upon private properties is temporary and such rights commence upon project award and automatically expire upon completion and project final acceptance by the Department.

In all cases where it is necessary to enter upon private property; it is the Contractors sole responsibility to minimize any disruptions to personal property in the commencement of such work thereof. Additionally, the following restrictions and requirements apply:

1. All Work is limited to the installation, relocation, or replacement of transmission facilities, including the Work necessary to restore each private property as required in number 6 of this subsection.
2. Notify the Engineer and the private property owner, and resident 72 hours before commencing Work on said private property.
3. Only vehicles and equipment required for the Work are allowed on any private property.
4. Do not store any materials, vehicles, or equipment on any private property longer than the duration required to perform the Work.
5. Do not use any private property as an on-site detour or vehicle path.
6. Immediately following any construction located on private property, restore all areas of the same parcel to a condition substantially the same as existed immediately prior to any such disturbances, including without limitation, any and all necessary repairs, and replacement of grassing, landscaping and pavement which may be removed and

excavated by the Contractor. Ensure all necessary repairs are made to restore the original contours and re-establish the ground cover to control erosion.

B. Finding Existing Underground Utilities and Obstructions

Comply with Subsection 107.13 and Subsection 107.21. When unforeseen conflicts or site conditions require Plan changes, perform the Work as altered according to Subsection 104.03 and Subsection 104.04.

Follow all customer notification requirements and obtain approval from the Transmission Engineer prior to disrupting existing services required for the installation of the transmission facilities shown on the Plans and Job Specification Book and for the installation of any required temporary transmission facilities.

C. Installation of Electric Transmission Systems

Follow all relevant procedures set forth in the Core Function, Line Design Segment of the Southern Company Transmission Playbook. Construct all temporary and proposed electric transmission facilities in accordance with the requirements set forth in the Plans, Job Specification Book, and as instructed by the Transmission Engineer.

D. Excavating Trenches

Excavate trenches to the proper grade, depth, and width as follows:

1. Trench to Grade

   Ensure excavated trench bottoms are firm, free from boulders, and conform to the established grade.

   a. Backfill, according to Section 207, any part of the trench excavated below the established grade. Use Class I or Class II Soils (Section 810), and firmly compact the soil.

   b. Where the established grade of a trench is in rock, undercut the bottom of the trench by at least 6 in (150 mm), then backfill and compact according to Section 207.

      Conduct blasting operations according to Subsection 107.12.

   c. Excavate trenches under pavement to grade as follows:

      i. To remove the pavement, cut it at least 12 in (300 mm) wider than each trench edge to provide solid bearing for the pavement edges when replaced. Remove the pavement according to Section 444, except no separate payment will be made for sawed joints.

      ii. Directional bore under existing sidewalks, curbs, gutters, and pavements according to Section 615.

2. Minimum Trench Depth

   Excavate trenches to provide at least 48 in (1.2 m) cover depth from the Work to the finished pavement surface, sidewalk, grass plot, etc. unless indicated otherwise on the Plans or by the Engineer.

   If any part of a transmission facility is to be placed in or under a new embankment, finish the embankment to at least a 2 ft (600 mm) plane above the top of the proposed facility before excavating the trench.

3. Trench Width

   Excavate trenches wide enough to allow proper installation of the Work.

E. Directional Boring

This Work consists of installing various sizes of bores by directional boring through whatever materials may be encountered.

Furnish, for the Engineer's approval, a plan showing the proposed methods for the installation of the horizontal directional bore. The Engineer will review the proposed installation plan within 10 working days of receipt by the Department. No

directional boring Work will be allowed until the Contractor's submitted plan is approved by the Engineer. Include the following detail in the plan, as a minimum:

1. List of projects completed by the company performing the boring operation, environment of installation (urban work, river crossing, freeway), diameter of product installation and length of bores. Include the name, address and phone number of an owner's representative with knowledge of the performance of the Work. Provide at least five previously completed projects of similar scope as the boring Work included in this contract.
2. List of the Contractor's key personnel with a resume of boring experience. The Department will be the sole judge of the qualifications of the foreman and the drill operators.
3. Location of all proposed boring entry and exit pits.
4. Proposed alignment of bore both horizontal and vertical. For the proposed alignment, maintain a minimum clearance of 18 inches (450 mm) or 2 times the diameter of the final product installation, whichever is greater, at any obstruction. Do not perform boring in select backfill areas such as at mechanically stabilized wall locations.
5. Proposed diameter of bore. This diameter is the diameter of the final product installation.
6. Proposed diameter of pilot borehole.
7. Proposed diameter of back reamer. Do not allow the diameter of the back reamer to exceed 1.5 times the diameter of the final product installation.
8. Proposed depth of cover. Ensure the depth of cover will be equal to or greater than 10 times the diameter of the final product installation. Under paved shoulders, maintain a minimum depth of cover of 4 feet (1.22 meters). Under travel lanes or outside of paved shoulders, maintain a minimum depth of cover of 8 feet (2.44 meters).
9. Evaluation of soil conditions to be encountered. A complete soil survey is not required. As a minimum, excavate the entrance and exit pits for the proposed bore and determine the nature of the material likely to be encountered. Base the drilling fluid composition on the evaluation of the materials encountered in the bore pit excavation.
10. Proposed composition of drilling fluid.
11. Proposed drilling fluid pressure and flow rates.
12. Proposed drilling fluid management plan.
13. Proposed pull back rate.
14. Type of tracking system.

Excavate suitable pits or trenches for the boring operation and for placing end joints or termination connectors of conduit when required. Securely sheet and brace pits or trenches where necessary to prevent caving. Where directional boring is required under railroads, highways, streets or other facilities, perform construction in a manner that will not interfere with the operation of the facility, and not weaken the roadbed or structure. Do not disturb or excavate any roadway pavement, subgrade, roadbed, paved shoulder, or unpaved median as part of the boring or pipe placing operation for any reason without written authorization by the Engineer.

In the above areas, unless otherwise authorized in writing by the Engineer, abandon in place any broken or damaged boring rod/stem, boring head (including transmitter/transponder locating heads and cutter heads), couplings (including back reaming, swivel or connector couplings), or any other material that cannot be retrieved as part of the pullback operation. Abandoned material will become the property of the Department. No additional payment for abandoned material will be made.

Continuously monitor the location and alignment of the pilot drill progress to insure compliance with the proposed installation alignment and to verify depth of the bore. Accomplish monitoring by manual plotting based on location and depth readings provided by the locating/tracking system or by computer generated bore logs which map the bore path based on information provided by the locating/tracking system. Obtain readings or plots on every drill rod and provide to the Engineer on a daily basis for as-built plans.

Monitor drilling fluids such as the pumping rate, pressures, viscosity and density during the pilot bore, back reaming, and/or pipe installation stages to ensure adequate removal of soil cuttings and to ensure the stability of the borehole is maintained. Do not allow drilling fluid pressures to exceed that which can be supported by the overburden (soil) pressure to prevent heaving or a hydraulic fracture of the soils. Contain excessive drilling fluids at the entry and exit points until recycled or removed from the site. Dispose of all drilling fluids in a manner acceptable to the appropriate local, state and federal regulations. The Work will be immediately suspended whenever drilling fluids seep to the surface other than in the boring entrance or exit pit. Propose a method to prevent further seepage and remove and dispose of any drilling fluid on the surface prior to resuming the boring operation.

To minimize heaving during pullback, determine the pullback rate to maximize the removal of soil cuttings and minimize compaction of the ground surrounding the borehole. Ensure the pullback rate minimizes over cutting of the borehole during the back reaming operation to ensure excessive voids are not created resulting in post installation settlement. Restore any surfaces damaged by the Work to their preconstruction conditions. All costs associated with the restoration are to be borne by the Contractor.

The distance the excavation extends beyond the end of the bore will depend upon the character of the excavated material. Do not exceed 2 feet (0.61 meters) in any case. If the character of the material being excavated makes it desirable, decrease the distance on instructions from the Engineer. Once the directional boring has commenced, insofar as practical, continue the operation without interruption. After the boring has been completed, immediately backfill the pits or trenches excavated to facilitate boring operations.

Proceed with the Work from a surface staging area provided for the boring equipment and workers. Obtain approval from the Engineer on the proposed location of the staging area. Bore the holes mechanically. Place excavated material near the top of the working pit and dispose of as required. Water or other fluids in connection with the boring operation will be permitted only to the extent necessary to lubricate cutting. Do not perform jetting. Excavation will not be measured for payment.

In unconsolidated soil formations, a gel-forming colloidal drilling fluid consisting of at least 10% high grade carefully processed bentonite may be used to consolidate excavated material, seal the walls of the hole, and furnish lubrication for subsequent removal of material and immediate back reaming/installation of conduit. Continuously monitor and maintain the flow pressure on the drilling fluid at the minimal pressure required to place the fluid. In normal circumstances, do not exceed a flow pressure of 200 psi (1379 k Pa). At any time during boring operations, do not exceed a flow pressure of 500 psi (3448 k Pa). Remove all drilling fluid spoils from both ends of the bore and properly dispose of material at a properly permitted location.

The maximum allowable variation from line and grade is a maximum of 2 percent. Pressure grout any voids, with an approved mix, that develop during the installation operation and are determined by the Engineer to be detrimental to the Work.

Directional boring operations inherently include the risk of encountering below grade obstructions that begin to alter the bore direction. Should an obstruction be encountered, notify the Engineer immediately. Boring deeper or shallower (if minimum pipe depth can be maintained), moving the boring head to the right or left of the obstruction, or attempt to bore through the obstruction (if other than solid rock) are acceptable corrective measures to restore bore alignment. To restore the bore alignment, perform a minimum of three attempts at each encountered obstruction with different corrective measures. The Engineer may authorize a relocation of the bore if a suitable bore alignment cannot be restored.

F. Removals

Follow all relevant procedures set forth in the Core Function, Line Design Segment of the Southern Company Transmission Playbook. Remove all temporary and existing electric transmission facilities in accordance with the requirements set forth in the Plans, Job Specification Book, and as instructed by the Transmission Engineer. Cutting of poles specified for removal or abandonment will not be permitted. Remove pole(s) and backfill void in accordance with Section 207. Backfill any voids remaining from the removal of underground facilities in accordance with Section 207. Replace, in-kind (material and depth), any voids remaining in roadway structures.

G. Transfers

Follow all relevant procedures set forth in the Core Function, Line Design Segment of the Southern Company Transmission Playbook. Transfer all electric transmission facilities in accordance with the requirements set forth in the Plans, Job Specification Book, and as instructed by the Transmission Engineer.

H. Remaining Material

1. Material Originating from Georgia Power Company

   Return all unused material to Georgia Power Company. The Transmission Engineer will verify and accept or reject all returned material. No credit will be given the Contractor for any material rejected by Georgia Power Company due to, but not limited to, damage, material loss, or material theft.

2. Material Originating from the Project Site – Existing or Surplus Material

   Properly dispose of all surplus material. With exception to transformers, surplus and properly dispose of any material originating from the project and is not required, or no longer required, for the completion of the Work. Return all transformers to Georgia Power Company.

I. Staging, Mobilization, and De-mobilization

Perform the Work in accordance with the staging plans. If there are changes to the staging plans, obtain concurrence from the Engineer and Transmission Engineer. There will be no separate measurement and payment for mobilization or de-mobilization required by the staging plans or required by the staging plans proposed by the Contractor.

663.3.06 Quality Acceptance

A. Testing

Follow all relevant procedures set forth in the Core Function, Line Design Segment of the Southern Company Transmission Playbook, current edition. Ensure Transmission Engineer is present at all inspection and testing.

B. Semi-Final Utility Inspection

When the contractor has finished the Electrical Transmission System Work, the Contractor may, by written notice, request that a semi-final utility inspection be made. The Engineer, along with the Transmission Engineer, will determine if the Electrical Transmission System Work is ready for semi-final utility inspection. The Engineer, in agreement with the Transmission Engineer, will have the final decision on when the Electrical Transmission System Work is complete and thereby ready for semi-final utility inspection. If all the Electrical Transmission System Work provided for and contemplated by the Contract is found to be complete to the Engineer's satisfaction and all documents required in connection with the Electrical Transmission System Work has been submitted and accepted then, the Contractor may request transfer of the completed Electrical Transmission System Work to the Owner.

Once the new facilities are in service and accepted by the Owner, provide written correspondence notifying the Engineer and Owner that utility location services will be the responsibility of said Owner.

Such partial acceptance shall in no way relieve the Contractor of the responsibility for satisfactory completion of the Contract, or for failure of any portion of the Electrical Transmission System Work prior to Final Acceptance of the Project.

663.3.07 Contractor Warranty and Maintenance

General Provisions 101 through 150

663.4 Measurement

Overhead and underground electric transmission systems, and other items of Work in this Specification, in place, operational, and accepted, are measured for payment as follows:

A. Overhead Electric Transmission

Overhead Electric Transmission is measured in linear feet for each size (kV) facility installed. The facility is measured along the centerline of the facility from pole structure to pole structure through all fittings, switches, and transformers and shall include the installation of the pole structures and any materials required by the Core Function, Line Design Segment of the Southern Company Transmission Playbook, current edition. Measurement includes all wire to complete the work regardless of the number of phase conductors specified. Measurement will begin and end at existing pole structures where the newly installed Work ties back to the existing facility or specified ending structure. There will be no compensation for replacement of damaged or lost materials. There will be no separate measurement and payment for the transfer of existing materials to new location. Include the costs of transferring materials in the costs for the installation of Overhead and Underground Electric Transmission System, temporary or permanent. If shown on the Plans, installation of transmission secondary/service lines will be measured from the newly installed pole structure to the existing residential or commercial pole structure or first attachment.

Obtain measurements with electronic survey equipment and provide Engineer with printout of installed facilities indicating State Plane Coordinates and station numbers of each pole structure and indicate distances between pole structures starting from the beginning of the Work (existing facility pole structure).

B. Overhead Electric Transmission (Temporary)

Temporary Overhead Electric Transmission is measured in linear feet for each size (kV) facility installed. The facility is measured along the centerline of the facility from pole structure to pole structure though all fittings, switches, and transformers and shall include the installation of the pole structures and any materials required by the Core Function, Line Design Segment of the Southern Company Transmission Playbook, current edition. Measurement includes all wire to complete the work regardless of the number of phase conductors specified. Measurement will begin and end at existing pole structures where the newly installed Work connects to the existing facility or specified ending structure. There will be no compensation for replacement of damaged or lost materials. There will be no separate measurement and payment for the transfer of existing materials to new location. Include the costs of transferring materials in the costs for the installation of Overhead and Underground Electric Transmission System, temporary or permanent.

Obtain measurements with electronic survey equipment and provide Engineer with printout of installed facilities indicating State Plane Coordinates and station numbers of each pole structure and indicate distances between pole structures starting from the beginning of the Work (existing facility pole structure).

C. Underground Electric Transmission

Underground Electric Transmission is measured in linear feet for each size (kV) facility installed. The facility is measured along the center following the existing ground line from structure to structure through junction boxes, transformers, and

vaults and shall include the installation of the pole structures and any materials required by the Core Function, Line Design Segment of the Southern Company Transmission Playbook, current edition. Measurement includes all wire to complete the work regardless of the number of phase conductors specified. Measurement will begin and end at existing pole structures, vault structures, splice point, or termination cabinet where the newly installed Work connects to the existing facility. All measurements will begin and terminate at the intersection of the structure and grade. Measurement for buried facilities that transition up pole structures to tie to the overhead facilities will not be made. There will be no compensation for replacement of damaged or lost materials. There will be no separate measurement and payment for the transfer of existing materials to new location. Include the costs of transferring materials in the costs for the installation of Overhead and Underground Electric Transmission System, temporary or permanent. Measurement of unsuccessful boring attempts will not be made. Successful directional bores will not be measured for payment.

Obtain measurements with electronic survey equipment and provide Engineer with printout of installed facilities indicating State Plane Coordinates and station numbers of each underground structure and pole structure and indicate distances between structures starting from the beginning of the Work (existing facility structure).

D. Installation of Poles

Installation of Steel, Concrete, and Wood Poles will not be measured separately for payment. Steel, Concrete, and Wood Poles are included in the measurement of the overhead or underground electric transmission, permanent or temporary.

E. Installation of Electric Wire

Installation of Electric Wire will not be measured separately for payment. Wire is included in the measurement of the overhead or underground electric transmission, permanent or temporary.

F. Removal of Overhead Electric Transmission

Removal of the Overhead Electric Transmission is measured in linear feet for each size (kV) facility removed. The facility is measured along the centerline of the facility from pole structure to pole structure through the equipment mounted on the poles including, but not limited to, wire, transformers, switches, capacitor banks, street lights, and reclosers. Measurement will begin and end at existing pole structures where the transmission facility specified for removal connects to the existing facility to remain. There will be no compensation for replacement of damaged or lost materials. There will be no separate measurement and payment for the transfer of existing materials to new location. Include the costs of transferring materials in the costs for the installation of Overhead and Underground Electric Transmission System, temporary or permanent. There will be no separate measurement and payment for backfilling of voids remaining from removal or replacement of roadway section. Measurement includes the removal of all wire regardless of the number of phase conductors specified. If shown on the Plans, removal of transmission secondary/service lines will be measured from the existing transmission pole specified to be removed to the existing residential or commercial pole structure or first attachment.

Obtain measurements with electronic survey equipment and provide Engineer with printout of existing facilities indicating State Plane Coordinates and station numbers of each pole structure and indicate distances between pole structures starting from the beginning of the Work (existing facility pole structure). Obtain approval from the Engineer of existing measurements prior to beginning removal Work.

G. Removal of Overhead Electric Transmission (Temporary)

Removal of the Overhead Electric Transmission (Temporary) is measured in linear feet for each size (kV) facility removed. The facility is measured along the centerline of the facility from pole structure to pole structure through the equipment mounted on the poles including, but not limited to, wire, transformers, switches, capacitor banks, street lights, and reclosers. Measurement will begin and end at existing pole structures where the transmission facility specified for removal connects to the existing facility to remain. There will be no compensation for replacement of damaged or lost materials. There will be no separate measurement and payment for the transfer of existing materials to new location. Include the costs of transferring materials in the costs for the installation of Overhead and Underground Electric Transmission System, temporary or permanent. There will be no separate measurement and payment for backfilling of voids remaining from removal or

replacement of roadway section. Measurement includes the removal of all wire regardless of the number of phase conductors specified.

Obtain measurements with electronic survey equipment and provide Engineer with printout of existing facilities indicating State Plane Coordinates and station numbers of each pole structure and indicate distances between pole structures starting from the beginning of the Work (existing facility pole structure). Obtain approval from the Engineer of existing measurements prior to beginning removal Work.

H. Removal of Underground Electric Transmission

Removal of Underground Electric Transmission is measured in linear feet for each size (kV) facility removed. The lines are measured along the center following the existing ground line from structure to structure through junction boxes, transformers, and vaults and shall include the removal, if required by the plans, of any materials that are integral to the temporary facility. This includes, but is not limited to, junction boxes, transformers, switching cubicle, and vaults. Measurement will begin and end at existing pole structures or vault structures where the newly installed facility connects to the existing facility. There will be no compensation for replacement of damaged or lost materials. There will be no separate measurement and payment for the transfer of existing materials to new location. Include the costs of transferring materials in the costs for the installation of Overhead and Underground Electric Transmission System, temporary or permanent. There will be no separate measurement and payment for backfilling of voids remaining from removal or replacement of roadway section. Measurement includes the removal of all wire regardless of the number of phase conductors specified.

Obtain measurements with electronic survey equipment and provide Engineer with printout of existing facilities indicating State Plane Coordinates and station numbers of each underground structure and pole structure and indicate distances between structures starting from the beginning of the Work (existing facility structure). There will be no measurement and payment for backfilling of voids left by removed underground equipment. Obtain approval from the Engineer of existing measurements prior to beginning removal Work.

I. Removal of Poles

Removal of Steel, Concrete, and Wood Poles will not be measured separately for payment. Removal is included in the measurement of the removal of overhead or underground electric transmission, permanent or temporary.

663.4.01 Limits

General Provisions 101 through 150

663.5 Payment

The Contract Unit Price for each Item shall include all costs incidental to the construction of the Item according to the Plans, Job Specification Book, and as specified in this Section. All such surplus items will become the property of Georgia Power Company unless otherwise specified. Payment for any Item listed below is full compensation for the Item or Items in place, operational, and accepted.

A. Overhead Electric Transmission

Overhead Electric Transmission will be paid for at the contract unit price per linear foot for each size (kV) facility installed. Payment is full compensation for materials, handling, delivery, and storage of material and installation of material in accordance with the Plans and Job Specification Book. Payment is full compensation for necessary handling and delivery of surplus material to Georgia Power Company. Payment is full compensation for all the necessary material, equipment and labor to install the Overhead Electric Transmission, including all items necessary and items specified in the Job Specification Book and Plans. Payment is full compensation for the entire linear feet required to span the portion of the project specified and to tie back to existing facilities. This includes items such as wire (regardless of the number of phase conductors

specified), transformers, poles (wood, steel, or concrete), framing assemblies, utility assemblies, conductors, hardware, guy assemblies, street lights, switches, capacitor banks, reclosers and any other item(s) necessary to provide for an in place and accepted operational Overhead Electric Transmission of the size specified in the Plans and Job Specification Book. If shown on the Plans, installation of transmission service lines will be paid for as specified in this Section.

B. Overhead Electric Transmission (Temporary)

Temporary Overhead Electric Transmission will be paid for at the contract unit price per linear foot for each size (kV) facility installed. Payment is full compensation for material, handling, delivery, and storage of materials and installation of materials in accordance with the Plans and Job Specification Book. Payment is full compensation for any work required to accommodate project staging, detours, or structures not shown on the Plans or Job Specification Book. Payment is full compensation for necessary handling and delivery of surplus material to Georgia Power Company. Payment is full compensation for all the necessary material, equipment and labor to install the Temporary Electric Transmission, including all items necessary and items specified in the Job Specification Book and Plans. Payment is full compensation for the entire linear feet required to span the portion of the project specified and to tie back to existing facilities. This includes items such as wire (regardless of the number of phase conductors specified), transformers, poles (wood, steel, or concrete), framing assemblies, utility assemblies, conductors, hardware, guy assemblies, street lights, switches, capacitor banks, reclosers and any other item(s) necessary to provide for an in place and accepted operational Overhead Electric Transmission of the size specified in the Plans and Job Specification Book.

C. Underground Electric Transmission

Underground Electric Transmission will be paid for at the contract unit price per linear foot for each size (kV) facility installed. Payment is full compensation for material, handling, delivery, and storage of material and installation of material in accordance with the Plans and Job Specification Book. Payment is full compensation for necessary handling and delivery of surplus material to Georgia Power Company. Payment is full compensation for all the necessary material, equipment and labor to install the Underground Electric Transmission, including all items necessary and items specified in the Job Specification Book and Plans. Payment is full compensation for the entire linear feet required to traverse, below grade, the portion of the project specified and to tie back to existing facilities. This includes items such as directional boring, wire (regardless of the number of phase conductors specified), conduit, transformers, vaults, switching cubicle, hardware, and any other item(s) necessary to provide for an in place and accepted operational Underground Electric Transmission of the size specified in the Plans and Job Specification Book. Payment of unsuccessful boring attempts will not be made. Successful directional bores will not be paid for separately.

D. Installation of Poles

No separate payment will be made for the installation of Steel, Concrete, or Wood Poles. Costs for the installation of poles are included in the price for overhead or underground electric transmission, permanent or temporary.

E. Installation of Electric Wire

No separate payment will be made for the installation of electric wire. Costs for the installation of electric wire are included in the price for overhead or underground electric transmission, temporary or permanent.

F. Removal of Overhead Electric Transmission

Removal of Overhead Electric Transmission will be paid for at the contract unit price per linear foot for each size (kV) facility removed. Payment is full compensation for removal, handling, delivery, storage, and surplus of materials. Payment is full compensation for necessary handling and delivery of surplus material to Georgia Power Company. Payment is full compensation for all the necessary equipment and labor to remove the Overhead Electric Transmission. Payment is full compensation for the entire linear feet removed back to existing or new facilities as shown on the plans. This includes items such as wire (regardless of the number of phase conductors specified), transformers, poles (wood, steel, or concrete), framing assemblies, utility assemblies, conductors, hardware, guy assemblies, street lights, and any other item(s) necessary for complete removal. If shown on the Plans, removal of transmission service lines will be paid for as specified in this Section.

All material removed and not re-used becomes the property of Georgia Power Company. Payment for Removal of Overhead Electric Transmission includes the removal, handling, delivery, and off-loading of all material at a Georgia Power Company Operating Headquarters specified by the Transmission Engineer.

G. Removal of Overhead Electric Transmission (Temporary)

Removal of Overhead Electric Transmission (Temporary) will be paid for at the contract unit price per linear foot for each size (kV) facility removed. Payment is full compensation for removal, handling, delivery, storage, and surplus of materials. Payment is full compensation for all the necessary equipment and labor to remove the Temporary Electric Transmission. Payment is full compensation for the entire linear feet removed back to existing or new facilities as shown on the Plans. This includes items such as wire (regardless of the number of phase conductors specified), transformers, poles (wood, steel, or concrete), framing assemblies, utility assemblies, conductors, hardware, guy assemblies, street lights, and any other item(s) necessary for complete removal.

All material removed and not re-used becomes the property of Georgia Power Company. Payment for Removal of Overhead Electric Transmission (Temporary) includes the removal, handling, delivery, and off-loading of all material at a Georgia Power Operating Headquarters specified by the Transmission Engineer.

H. Removal of Underground Electric Transmission

Removal of Underground Electric Transmission will be paid for at the contract unit price per linear foot for each size (kV) facility removed. Payment is full compensation for removal, handling, delivery, storage, and surplus of materials. Payment is full compensation for all the necessary equipment and labor to remove the Underground Electric Transmission. Payment is full compensation for the entire linear feet removed back to existing or new facilities as shown on the Plans. This includes removal of items such as wire (regardless of the number of phase conductors specified), conduit, transformers, vaults, hardware, and any other item(s) necessary for complete removal.

All material removed and not re-used becomes the property of Georgia Power Company. Payment for Removal of Overhead Electric Transmission includes the removal, handling, delivery, and off-loading of all material at a Georgia Power Operating Headquarters specified by the Transmission Engineer.

I. Removal of Poles

No separate payment will be made for the removal of Steel, Concrete, or Wood Poles. Costs for the removal of poles are included in the price for removal of overhead or underground electric transmission, permanent or temporary.

Payment will be made under:

Item No. 663	Overhead Electric Transmission - _____ kV	Per linear foot (meter)
Item No. 663	Overhead Electric Transmission (Secondary/Service) - _____kV	Per linear foot (meter)
Item No. 663	Overhead Electric Transmission (Temporary) - _____ kV	Per linear foot (meter)
Item No. 663	Underground Electric Transmission - _____ kV	Per linear foot (meter)
Item No. 663	Removal of Overhead Electric Transmission - _____ kV	Per linear foot (meter)

Item No. 663	Removal of Overhead Electric Transmission (Secondary/Service) - ____kV	Per linear foot (meter)
Item No. 663	Removal of Overhead Electric Transmission (Temporary) - _____kV	Per linear foot (meter)
Item No. 663	Removal of Underground Electric Transmission - _____kV	Per linear foot (meter)

663.5.01 Adjustments

General Provisions 101 through 150

Project Item: 1585802

PE: 6055 PE Item: Version: Working Copy

Type Work: MODIFICATION Work Order:

Facility Name: BULL CREEK - OLIVER DAM 115 KV Facility Required Date: 11/1/2016

Nearest Town: 10.67 Originator: EVERITT, DE

Description:

Relocate structures #8 - #11A of the BULL CREEK - OLIVER DAM 115 KV. Structure #10 to be a self-supporting, Large Angle DE, steel pole with foundation.

Due to changes in structures 9 and 11, structures 8 and 11A must also be changed to meet code requirements. KWH 10/16/15

Discipline/Retirement Unit	UM	Quantity	Material	Labor	Equipment	Total
PLANT ADDITIONS						
CONSTRUCTION(Estimator: HANIE,KEEGAN W)						
ANCHOR GUY	EA	6	2,113			
BRACED POLY HP INSUL 115KV	EA	1	1,297			
C STRAIN,VERTLDE,FIXT&GUYS110	LT	1	1,334			
FIXTURES & GUYS (UNDER 110)	LT	1	647			
GROUNDING-DRIVEN RODS	EA	5	451			
GROUNDING-STANDARD GROUND GAL	EA	7	853			
INSULATORS-SUSPENSION	LT	1	235			
INSULATOR-STRUT 115KV	SE	2	744			
INSULATOR-SUSPENSION 115KV	SE	3	2,676			
INSUL-HORIZONTAL POST 115KV	SE	3	1,860			
POLES-CONCRETE - 110 FT.	EA	2	15,980			
POLES-CONCRETE - 115 FT.	EA	1	8,226			
POLES-CONCRETE - 120 FT.	EA	1	9,555			
POLES-CONCRETE - 40 FT.	EA	1	3,454			
SET OF FIXTURES	LT	1	700			
SPAN OR HEAD GUY	EA	2	443			
STEEL POLE	LT	1	6,900			
STEEL POLE - 100'	EA	1	69,000			
WIRE-ACSR,SGL COND 636.1KCMIL	FT	4,000	8,520			
WIRE-STEEL (OH GRND 5/16"	FT	1,300	640			
DisciplineTotal			**135,628**			
ENGINEERING(Estimator: YONTZ, JE)						
DIRECT ENGINEERING	LT	1	0			
DisciplineTotal			**0**			
LAND(Estimator: WERT, JF)						
DIRECT ENGINEERING	LT	1	0			
TRANS, MEALS, ETC.	LT	1	346			
DisciplineTotal			**346**			
PLAN & PROJ(Estimator: YONTZ, JE)						
DIRECT ENGINEERING	LT	1	0			
DisciplineTotal			**0**			
RIGHT OF WAY(Estimator: EVERITT, DE)						
FOUNDATIONS-RIGID BASE STRS	EA	1	5,750			
RIGHT OF WAY CLEARING	LT	1	0			
ROW:CREW SUPPORT	LT	1	0			
DisciplineTotal			**5,750**			
Sub-Total PLANT ADDITIONS			**141,724**			
PLANT TRANSFER ADDITIONS						
Sub-Total PLANT TRANSFER ADDITIONS					**000**	**0**
TOTAL PLANT ADDITIONS WITHOUT OVERHEADS			**141,724**			

DEPARTMENT OF TRANSPORTATION

STATE OF GEORGIA

SPECIAL PROVISION

PROJECT: FY 17 Bridge

Replacement

COUNTY: Dodge, Dooly,

Colquitt, Quitman, Echols,

Thomas

PI NO: 0015524

Section 664 - Electric Distribution Systems

Add the following:

664.1 General Description

This Work consists of furnishing materials, labor, tools, equipment, and other items necessary for the installation, relocation, and adjustment of overhead and underground electric distribution systems in accordance with the Project plans, Work Summary Location Reports, and Specifications. Correct all deficiencies in the Work indicated by testing, inspecting, and as directed by the Engineer.

664.1.01 Definitions

General Provisions 101 through 150

Whenever the terms "Company" or "Georgia Power Company" are used in this Special Provision and its related documents, they mean Georgia Power Company, Inc., its subsidiaries, successors and/or assigns. Whenever the term "Plan" is used in this Special Provision and related documents, this includes the Electric Distribution Relocation Plans. The term "Southern Company" is synonymous with Georgia Power Company.

The term "Distribution Engineer" means the Company's authorized individual having the authority to give instructions pertaining to the Work. The Distribution Engineer has authority to approve or reject the Work and otherwise represent the Company. The "Distribution Engineer" is not authorized to revoke, alter, enlarge, relax, or release any requirements of the Contract, Plans, and Specifications nor will they act as an agent for the Contractor. Ensure Distribution Engineer has access to all of the Work for inspection and testing. Ensure Distribution Engineer attends Closing Conference and Final Inspection.

During emergency situations involving the Company's facilities, such as weather related incidents or power outages, or for system maintenance, the Distribution Engineer has the authority to direct the Work and to add Company crews as necessary. Additional items required for any emergency work, power outages, or system maintenance will be addressed as specified in Section 104.03 Alteration of Plans or Character of Work.

664.1.02 Related References

General Provisions 101 through 150

A. Standard Specifications

Section 201-Clearing and Grubbing
Section 205-Roadway Excavation
Section 207-Excavation and Backfill for Minor Structures
Section 208-Embankments
Section 209-Subgrade Construction
Section 310-Graded Aggregate Construction
Section 400-Hot Mix Asphaltic Concrete Construction
Section 441-Miscelaneous Concrete
Section 500-Concrete Structures
Section 852-Miscellaneous Steel Materials
Section 861-Piling and Round Timber
Section 863-Preservative Treatment of Timber Products

B. Related Documents

1. Southern Company Overhead Distribution Standards, current edition
2. Southern Company Underground Distribution Standards, current edition
3. National Electric Safety Code, ANSI – C2 (NESC)
   Available from the Institute of Electrical and Electronics Engineers
   http://www.ieee.org/portal/site/iportals/

For copies of Southern Company's distribution standards, please contact:

Georgia Power Company
Mr. Mark Tilden
Bin 10140
241 Ralph McGill Boulevard, NE
Atlanta, Georgia 30308-3374
404-506-4203

If there is a conflict or discrepancy between the Specifications and the Southern Company Standards or the National Electric Safety Code, perform the Work in accordance with the Southern Company Standards and National Electric Safety Code, current editions. If the Southern Company Standards and National Electric Safety Codes are revised after notice to contractors date, perform the Work specified in the Plans, Work Location Summary Reports, and Specifications using the revised standards and codes. If revisions to the Southern Company Standards and National Electric Safety Codes are dated on or after the letting date shown on the bid proposal, notify the Engineer in writing of such revisions.

664.1.03 Submittals

General Provisions 101 through 150

Refer to the Southern Company Overhead Distribution Standards and Southern Company Underground Distribution Standards, current published edition, for electric utility submittal requirements.

A. Completion Letter and As-Built Documentation

Provide no later than 30 days after the completion of the work a Completion Letter and As-Built Documentation to both the Engineer and the Contract Coordinator consisting of the following information.

1. Include in the Completion Letter the date all electrical pay items are completed and ready to be turned over to the Company. Also, include a detailed estimate of quantities in place and explanation of any deviations or overruns.
2. Provide As-Built Documentation of the in-place and accepted electrical facilities. Documentation shall consist of two sets of full size plans and electronic files in the form of a Bentley MicroStation file using the same version and format in which the Electrical Distribution Plans were created.

664.2 Materials

A. Overhead and Underground Electric Distribution System

Any new materials required for the construction of proposed electric facilities shown on the Plans and listed in the Work Location Summary Reports are to be purchased from Georgia Power Company. When required by the Plans and Work Location Summary Reports, transfer all existing materials to the required locations as specified. Replace in-kind any existing material damaged during transfer.

Any other materials needed to complete the electric distribution system installation shall be transferred from the existing locations specified in the Plans. Incidental materials required to complete the Work will be supplied by the Contractor. Ensure all materials used are in conformance with the requirements and standards set forth in the Southern Company Overhead Distribution Standards and Southern Company Underground Distribution Standards, current edition. Items required for the Work but not shown in the Plans or the Work Location Summary Reports will require the review and approval by the Engineer and Distribution Engineer prior to incorporating such material into the Work. If there are revisions to the Work, the Company will provide a revised material list. The additional items required for the Work will be addressed as specified in Section 104.03 Alteration of Plans or Character of Work.

Because Georgia Power Company is supplying materials necessary for the Work, do not request a Materials Allowance as provided for in Section 109.07 Partial Payments

664.2.01 Delivery, Storage, and Handling

General Provisions 101 through 150

Coordinate with the Georgia Power Company representative listed below to ensure all necessary materials are available for installation as required on the Plans, including the roadway staging plans. Follow any delivery, storage and handling procedures set forth in the Southern Company Overhead Distribution Standards and Southern Company Underground Distribution Standards, current edition. Coordinate with Georgia Power Company to take delivery of required material, load required material, and transport all required material to the project. All of the material may be picked up from Georgia Power Company at once or receipt can be made on an as needed basis. If material storage is required, properly store the material at pre-approved locations within the project limits or at pre-approved locations off the project limits. Return or dispose of all unused and remaining material as detailed in subsection 664.3.05.H.

The Contractor is responsible for all materials from the time of receipt from Georgia Power Company to the return of remaining materials to Georgia Power Company or disposal. When all Work is complete, the Distribution Engineer, in the presence of the Engineer and Contractor, will field verify and document the Work's in-place material. From the Distribution Engineer's field work, verify with the Engineer and Distribution Engineer material quantities used are in-line with what was taken from the Company and what was returned to the Company.

Georgia Power Company

Mr. Mark Tilden
Bin 10140
241 Ralph McGill Boulevard, NE
Atlanta, Georgia 30308-3374
404-506-4203

664.3 Construction Requirements

664.3.01 Personnel

General Provisions 101 through 150

Ensure the construction and installation of all electric distribution facilities is performed by a subcontractor who is prequalified with Georgia Power Company and is registered with the Department. Contact the Georgia Power Company representative listed below to obtain a list of prequalified electric contractors. Electric contractors not prequalified with Georgia Power Company will not be registered and approved as a subcontractor for the Department. Ensure the distribution contractor selected for the bidding process is prequalified with Georgia Power Company.

Georgia Power Company
Mr. Mark Tilden
Bin 10140
241 Ralph McGill Boulevard, NE
Atlanta, Georgia 30308-3374
404-506-4203

664.3.02 Equipment

General Provisions 101 through 150

Ensure all equipment used is in conformance with the requirements and standards set forth in the Southern Company Overhead Distribution Standards and Southern Company Underground Distribution Standards, current edition. Obtain prior approval from the Engineer before starting Work on specialty items such as boring equipment and others of similar complexity.

664.3.03 Preparation

General Provisions 101 through 150

Follow all preparation procedures set forth in the Southern Company Overhead Distribution Standards and Southern Company Underground Distribution Standards, current edition. Perform necessary preliminary engineering, field engineering, survey, and construction staking and layout for the installation of the specified electric distribution system.

664.3.04 Fabrication

General Provisions 101 through 150

Ensure fabrication procedures and requirements conform to those set forth in Southern Company Overhead Distribution Standards and Southern Company Underground Distribution Standards, current edition. Submit shop drawings to the

Engineer and Distribution Engineer for any items requiring fabrication. Obtain approval from the Engineer and Distribution Engineer prior to ordering materials.

664.3.05 Construction

Review the Plans and Work Summary Location Reports to ensure all items required for the Work are included in the price bid for each electric distribution bid item. Provide a detailed list of materials required to complete the Work to the Engineer and Distribution Engineer prior to ordering and taking delivery from Georgia Power Company. In the required detailed list of materials, identify any material required to complete the Work not shown in the Plans or in the Work Summary Location Report. The contractor will need to confirm that all easements have been acquired and dependent activities have been completed before any work can commence in the affected areas.

A. Permission to Enter Private Property

Comply with Section 107—Legal Regulations and Responsibility to the Public.

Through an agreement between the Department and the Company; the Contractor is given the permission to enter upon private properties found outside the project's construction limits. This permission is granted for the sole purpose of activities relating to the installation and/or adjustments of distribution facilities only and is limited to the area of existing easements obtained by the company. Such permission to enter upon private properties is temporary and such rights commence upon project award and automatically expire upon completion and project final acceptance by the Department.

In all cases where it is necessary to enter upon private property; it is the Contractors sole responsibility to minimize any disruptions to personal property in the commencement of such work thereof. Additionally, the following restrictions and requirements apply:

1. All Work is limited to the installation, relocation, or replacement of distribution facilities, including the Work necessary to restore each private property as required in number 6 of this subsection.
2. Notify the Engineer and the private property owner, and resident 72 hours before commencing Work on said private property.
3. Only vehicles and equipment required for the Work are allowed on any private property.
4. Do not store any materials, vehicles, or equipment on any private property longer than the duration required to perform the Work.
5. Do not use any private property as an on-site detour or vehicle path.
6. Immediately following any construction located on private property, restore all areas of the same parcel to a condition substantially the same as existed immediately prior to any such disturbances, including without limitation, any and all necessary repairs, and replacement of grassing, landscaping and pavement which may be removed and excavated by the Contractor. Ensure all necessary repairs are made to restore the original contours and re-establish the ground cover to control erosion.

B. Finding Existing Underground Utilities and Obstructions

Comply with Subsection 107.13 and Subsection 107.21. When unforeseen conflicts or site conditions require Plan changes, perform the Work as altered according to Subsection 104.03 and Subsection 104.04.

Follow all customer notification requirements and obtain approval from the Distribution Engineer prior to disrupting existing services required for the installation of the distribution facilities shown on the Plans and Work Summary Location Reports and for the installation of any required temporary distribution facilities.

C. Installation of Electric Distribution Systems

Follow all relevant procedures set forth in the Southern Company Overhead Distribution Standards and Southern Company Underground Distribution Standards, current published edition. Construct all temporary and proposed electric distribution facilities in accordance with the requirements set forth in the Plans, Work Location Summary Reports, and as instructed by the Distribution Engineer.

D. Excavating Trenches

Excavate trenches to the proper grade, depth, and width as follows:

1. Trench to Grade

   Ensure excavated trench bottoms are firm, free from boulders, and conform to the established grade.

   a. Backfill, according to Section 207, any part of the trench excavated below the established grade. Use Class I or Class II Soils (Section 810), and firmly compact the soil.

   b. Where the established grade of a trench is in rock, undercut the bottom of the trench by at least 6 in (150 mm), then backfill and compact according to Section 207.

      Conduct blasting operations according to Subsection 107.12.

   c. Excavate trenches in pavement to grade as follows:

      i. Remove the pavement according to GDOT construction standard 1401.

      ii. Directional bore under existing sidewalks, curbs, gutters, and pavements according to Section 615.

2. Minimum Trench Depth

   Excavate trenches to provide at least 48 in (1.2 m) cover depth from the Work to the finished pavement surface, sidewalk, grass plot, etc. unless indicated otherwise on the Plans or by the Engineer.

   If any part of a distribution facility is to be placed in or under a new embankment, finish the embankment to at least a 2 ft (600 mm) plane above the top of the proposed facility before excavating the trench.

3. Trench Width

   Excavate trenches wide enough to allow proper installation of the Work.

E. Directional Boring

This Work consists of installing various sizes of bores by directional boring through whatever materials may be encountered. Furnish, for the Engineer's approval, a plan showing the proposed methods for the installation of the horizontal directional bore. The Engineer will review the proposed installation plan within 10 working days of receipt by the Department. No directional boring Work will be allowed until the Contractor's submitted plan is approved by the Engineer. Include the following detail in the plan, as a minimum:

1. List of projects completed by the company performing the boring operation, environment of installation (urban work, river crossing, freeway), diameter of product installation and length of bores. Include the name, address and phone number of an owner's representative with knowledge of the performance of the Work. Provide at least five previously completed projects of similar scope as the boring Work included in this contract.

2. List of the Contractor's key personnel with a resume of boring experience. The Department will be the sole judge of the qualifications of the foreman and the drill operators.

3. Location of all proposed boring entry and exit pits.

4. Proposed alignment of bore both horizontal and vertical. For the proposed alignment, maintain a minimum clearance of 18 inches (450 mm) or 2 times the diameter of the final product installation, whichever is greater, at any obstruction. Do not perform boring in select backfill areas such as at mechanically stabilized wall locations.

5. Proposed diameter of bore. This diameter is the diameter of the final product installation.
6. Proposed diameter of pilot borehole.
7. Proposed diameter of back reamer. Do not allow the diameter of the back reamer to exceed 1.5 times the diameter of the final product installation.
8. Proposed depth of cover. Ensure the depth of cover will be equal to or greater than 10 times the diameter of the final product installation. Under paved shoulders, maintain a minimum depth of cover of 4 feet (1.22 meters). Under travel lanes or outside of paved shoulders, maintain a minimum depth of cover of 8 feet (2.44 meters).
9. Evaluation of soil conditions to be encountered. A complete soil survey is not required. As a minimum, excavate the entrance and exit pits for the proposed bore and determine the nature of the material likely to be encountered. Base the drilling fluid composition on the evaluation of the materials encountered in the bore pit excavation.
10. Proposed composition of drilling fluid.
11. Proposed drilling fluid pressure and flow rates.
12. Proposed drilling fluid management plan.
13. Proposed pull back rate.
14. Type of tracking system.

Excavate suitable pits or trenches for the boring operation and for placing end joints or termination connectors of conduit when required. Securely sheet and brace pits or trenches where necessary to prevent caving. Where directional boring is required under railroads, highways, streets or other facilities, perform construction in a manner that will not interfere with the operation of the facility, and not weaken the roadbed or structure. Do not disturb or excavate any roadway pavement, subgrade, roadbed, paved shoulder, or unpaved median as part of the boring or pipe placing operation for any reason without written authorization by the Engineer.

In the above areas, unless otherwise authorized in writing by the Engineer, abandon in place any broken or damaged boring rod/stem, boring head (including transmitter/transponder locating heads and cutter heads), couplings (including back reaming, swivel or connector couplings), or any other material that cannot be retrieved as part of the pullback operation. Abandoned material will become the property of the Department. No additional payment for abandoned material will be made.

Continuously monitor the location and alignment of the pilot drill progress to insure compliance with the proposed installation alignment and to verify depth of the bore. Accomplish monitoring by manual plotting based on location and depth readings provided by the locating/tracking system or by computer generated bore logs which map the bore path based on information provided by the locating/tracking system. Obtain readings or plots on every drill rod and provide to the Engineer on a daily basis for as-built plans.

Monitor drilling fluids such as the pumping rate, pressures, viscosity and density during the pilot bore, back reaming, and/or pipe installation stages to ensure adequate removal of soil cuttings and to ensure the stability of the borehole is maintained. Do not allow drilling fluid pressures to exceed that which can be supported by the overburden (soil) pressure to prevent heaving or a hydraulic fracture of the soils. Contain excessive drilling fluids at the entry and exit points until recycled or removed from the site. Dispose of all drilling fluids in a manner acceptable to the appropriate local, state and federal regulations. The Work will be immediately suspended whenever drilling fluids seep to the surface other than in the boring entrance or exit pit. Propose a method to prevent further seepage and remove and dispose of any drilling fluid on the surface prior to resuming the boring operation.

To minimize heaving during pullback, determine the pullback rate to maximize the removal of soil cuttings and minimize compaction of the ground surrounding the borehole. Ensure the pullback rate minimizes over cutting of the borehole during the back reaming operation to ensure excessive voids are not created resulting in post installation settlement. Restore any

surfaces damaged by the Work to their preconstruction conditions. All costs associated with the restoration are to be borne by the Contractor.

The distance the excavation extends beyond the end of the bore will depend upon the character of the excavated material. Do not exceed 2 feet (0.61 meters) in any case. If the character of the material being excavated makes it desirable, decrease the distance on instructions from the Engineer. Once the directional boring has commenced, insofar as practical, continue the operation without interruption. After the boring has been completed, immediately backfill the pits or trenches excavated to facilitate boring operations.

Proceed with the Work from a surface staging area provided for the boring equipment and workers. Obtain approval from the Engineer on the proposed location of the staging area. Bore the holes mechanically. Place excavated material near the top of the working pit and dispose of as required. Water or other fluids in connection with the boring operation will be permitted only to the extent necessary to lubricate cutting. Do not perform jetting. Excavation will not be measured for payment.

In unconsolidated soil formations, a gel-forming colloidal drilling fluid consisting of at least 10% high grade carefully processed bentonite may be used to consolidate excavated material, seal the walls of the hole, and furnish lubrication for subsequent removal of material and immediate back reaming/installation of conduit. Continuously monitor and maintain the flow pressure on the drilling fluid at the minimal pressure required to place the fluid. In normal circumstances, do not exceed a flow pressure of 200 psi (1379 k Pa). At any time during boring operations, do not exceed a flow pressure of 500 psi (3448 k Pa). Remove all drilling fluid spoils from both ends of the bore and properly dispose of material at a properly permitted location.

The maximum allowable variation from line and grade is a maximum of 2 percent. Pressure grout any voids, with an approved mix, that develop during the installation operation and are determined by the Engineer to be detrimental to the Work.

Directional boring operations inherently include the risk of encountering below grade obstructions that begin to alter the bore direction. Should an obstruction be encountered, notify the Engineer immediately. Boring deeper or shallower (if minimum pipe depth can be maintained), moving the boring head to the right or left of the obstruction, or attempt to bore through the obstruction (if other than solid rock) are acceptable corrective measures to restore bore alignment. To restore the bore alignment, perform a minimum of three attempts at each encountered obstruction with different corrective measures. The Engineer may authorize a relocation of the bore if a suitable bore alignment cannot be restored.

F. Removals

Follow all relevant procedures set forth in the Southern Company Overhead Distribution Standards and Southern Company Underground Distribution Standards, current published edition. Remove all temporary and existing electric distribution facilities in accordance with the requirements set forth in the Plans, Work Location Summary Reports, and as instructed by the Distribution Engineer. Cutting of poles specified for removal or abandonment will not be permitted. Remove pole(s) and backfill void in accordance with Section 207. Backfill any voids remaining from the removal of underground facilities in accordance with Section 207. Replace, in-kind (material and depth), any voids remaining in roadway structures.

G. Transfers

Follow all relevant procedures set forth in the Southern Company Overhead Distribution Standards and Southern Company Underground Distribution Standards, current published edition. Transfer all electric distribution facilities in accordance with the requirements set forth in the Plans, Work Location Summary Reports, and as instructed by the Distribution Engineer.

H. Remaining Material

1. Material Originating from Georgia Power Company

   Return all unused material to Georgia Power Company. The Distribution Engineer will verify and accept or reject all returned material. No credit will be given the Contractor for any material rejected by Georgia Power Company due to, but not limited to, damage, material loss, or material theft.

2. Material Originating from the Project Site – Existing or Surplus Material

   Properly dispose of all surplus material. With exception to transformers, surplus and properly dispose of any material originating from the project and is not required, or no longer required, for the completion of the Work. Return all transformers to Georgia Power Company.

I. Staging, Mobilization, and De-mobilization

Perform the Work in accordance with the staging plans. If there are changes to the staging plans, obtain concurrence from the Engineer and Distribution Engineer. There will be no separate measurement and payment for mobilization or de-mobilization required by the staging plans or required by the staging plans proposed by the Contractor.

664.3.06 Quality Acceptance

A. Testing

Follow all relevant procedures set forth in the Southern Company Overhead Distribution Standards and Southern Company Underground Distribution Standards, current edition. Ensure Distribution Engineer is present at all inspection and testing. Correct all deficiencies in the Work indicated by testing, inspecting, and as directed by the Engineer or Distribution Engineer.

B. Semi-Final Utility Inspection

When the contractor has finished the Electrical Distribution System Work, the Contractor may, by written notice, request that a semi-final utility inspection be made. The Engineer, along with the Distribution Engineer, will determine if the Electrical Distribution System Work is ready for semi-final utility inspection. The Engineer, in agreement with the Distribution Engineer, will have the final decision on when the Electrical Distribution System Work is complete and thereby ready for semi-final utility inspection. If all the Electrical Distribution System Work provided for and contemplated by the Contract is found to be complete to the Engineer's satisfaction and all documents required in connection with the Electrical Distribution System Work has been submitted and accepted then, the Contractor may request transfer of the completed Electrical Distribution System Work to the Owner.
Once the new facilities are in service and accepted by the Owner, provide written correspondence notifying the Engineer and Owner that utility location services will be the responsibility of said Owner.

Such partial acceptance shall in no way relieve the Contractor of the responsibility for satisfactory completion of the Contract, or for failure of any portion of the Electrical Distribution System Work prior to Final Acceptance of the Project.

664.3.07 Contractor Warranty and Maintenance

General Provisions 101 through 150

664.4 Measurement

Overhead and underground electric distribution systems, and other items of Work in this Specification, in place, operational, and accepted, are measured for payment as follows:

A. Overhead Electric Distribution

Overhead Electric Distribution and secondary/service lines are measured in linear feet for each size (kV or V) facility installed. The facility is measured along the centerline of the facility from pole structure to pole structure through all fittings, switches, and transformers and shall include the installation of the pole structures and any materials required by the Southern Company Overhead Distribution Standards and Southern Company Underground Distribution Standards, current edition. Measurement includes all wire to complete the work regardless of the number of phase conductors specified or transferred. Measurement will begin and end at existing pole structures where the newly installed Work ties back to the existing facility or specified ending structure. There will be no compensation for replacement of damaged or lost materials. Measurement and payment for the transfer of existing materials to new location will be made in the same manner as a new installation. Include the costs of transferring materials in the costs for the installation of Overhead Electric Distribution System, temporary or permanent. If shown on the Plans, installation of distribution secondary/service lines will be measured from the newly installed pole structure to the existing residential or commercial pole structure or first attachment even if transferred.
Obtain measurements with electronic survey equipment and provide Engineer with printout of installed facilities indicating State Plane Coordinates and station numbers of each pole structure and indicate distances between pole structures starting from the beginning of the Work (existing facility pole structure).

B. Overhead Electric Distribution (Temporary)

Temporary Overhead Electric Distribution and secondary/service lines are measured in linear feet for each size (kV or V) facility installed. The facility is measured along the centerline of the facility from pole structure to pole structure though all fittings, switches, and transformers and shall include the installation of the pole structures and any materials required by the Southern Company Overhead Distribution Standards and Southern Company Underground Distribution Standards, current edition. Measurement includes all wire to complete the work regardless of the number of phase conductors specified or transferred. Measurement will begin and end at existing pole structures where the newly installed Work connects to the existing facility or specified ending structure. There will be no compensation for replacement of damaged or lost materials. Measurement and payment for the transfer of existing materials to new location will be made in the same manner as a new installation. Include the costs of transferring materials in the costs for the installation of Overhead Electric Distribution System, temporary or permanent.
Obtain measurements with electronic survey equipment and provide Engineer with printout of installed facilities indicating State Plane Coordinates and station numbers of each pole structure and indicate distances between pole structures starting from the beginning of the Work (existing facility pole structure).

C. Underground Electric Distribution

Underground Electric Distribution and secondary/service lines are measured in linear feet for each size (kV or V) facility installed. The facility is measured along the top and center of cable(s) from structure to structure through junction boxes, transformers, and vaults and shall include the installation of the pole structures and any materials required by the Southern Company Overhead Distribution Standards and Southern Company Underground Distribution Standards, current edition. Measurement includes all wire to complete the work regardless of the number of phase conductors specified. Measurement will begin and end at existing pole structures, vault structures, splice point, or termination cabinet where the newly installed Work connects to the existing facility. All measurements will begin and terminate at the intersection of the structure and grade. Measurement for buried facilities that transition up pole structures to tie to the overhead facilities will not be made. There will be no compensation for replacement of damaged or lost materials. There will be no separate measurement and

payment for the transfer or uncovering and relocating of existing materials to new location. Include the costs of transferring materials in the costs for the installation of Underground Electric Distribution System, temporary or permanent. Measurement of unsuccessful boring attempts will not be made. Successful directional bores will not be measured for payment.
Obtain measurements with electronic survey equipment and provide Engineer with printout of installed facilities indicating State Plane Coordinates and station numbers of each underground structure and pole structure and indicate distances between structures starting from the beginning of the Work (existing facility structure).

D. Installation of Poles
Installation of Steel, Concrete, and Wood Poles will not be measured separately for payment. Steel, Concrete, and Wood Poles are included in the measurement of the overhead or underground electric distribution, permanent or temporary.

E. Installation of Electric Wire
Installation of Electric Wire will not be measured separately for payment. Wire is included in the measurement of the overhead or underground electric distribution, permanent or temporary.

F. Removal of Overhead Electric Distribution
Removal of the Overhead Electric Distribution and secondary/service lines are measured in linear feet for each size (kV or V) facility removed. The facility is measured along the centerline of the facility from pole structure to pole structure through the equipment mounted on the poles including, but not limited to, wire, transformers, switches, capacitor banks, street lights, and reclosers. Measurement will begin and end at existing pole structures where the distribution facility specified for removal connects to the existing facility to remain. There will be no compensation for replacement of damaged or lost materials. There will be no separate measurement and payment for backfilling of voids remaining from removal or replacement of roadway section. Measurement includes the removal of all wire regardless of the number of phase conductors specified. If shown on the Plans, removal of distribution secondary/service lines will be measured from the existing distribution pole specified to be removed to the existing residential or commercial pole structure or first attachment. Measurement and payment where existing materials is to be transferred will be made in the same manner as removed.
Obtain measurements with electronic survey equipment and provide Engineer with printout of existing facilities indicating State Plane Coordinates and station numbers of each pole structure and indicate distances between pole structures starting from the beginning of the Work (existing facility pole structure). Obtain approval from the Engineer of existing measurements prior to beginning removal Work.

G. Removal of Overhead Electric Distribution (Temporary)
Removal of the Overhead Electric Distribution (Temporary) and secondary/service lines are measured in linear feet for each size (kV or V) facility removed. The facility is measured along the centerline of the facility from pole structure to pole structure through the equipment mounted on the poles including, but not limited to, wire, transformers, switches, capacitor banks, street lights, and reclosers. Measurement will begin and end at existing pole structures where the distribution facility specified for removal connects to the existing facility to remain. There will be no compensation for replacement of damaged or lost materials. There will be no separate measurement and payment for backfilling of voids remaining from removal or replacement of roadway section. Measurement includes the removal of all wire regardless of the number of phase conductors specified. If shown on the Plans, removal of temporary distribution secondary/service lines will be measured from the existing distribution pole specified to be removed to the existing residential or commercial pole structure or first attachment. Measurement and payment where temporary materials are to be transferred will be made in the same manner as removed.

Obtain measurements with electronic survey equipment and provide Engineer with printout of existing facilities indicating State Plane Coordinates and station numbers of each pole structure and indicate distances between pole structures starting from the beginning of the Work (existing facility pole structure). Obtain approval from the Engineer of existing measurements prior to beginning removal Work.

H. Removal of Underground Electric Distribution

Removal of Underground Electric Distribution and secondary/service lines are measured in linear feet for each size (kV or V) facility removed. The facility is measured along the top and center of cable(s) from structure to structure through junction boxes, transformers, and vaults and shall include the removal, if required by the plans, of any materials that are integral to the temporary facility. This includes, but is not limited to, junction boxes, transformers, switching cubicle, and vaults. Measurement will begin and end at existing pole structures or vault structures where the newly installed facility connects to the existing facility. There will be no compensation for replacement of damaged or lost materials. There will be no separate measurement and payment for backfilling of voids remaining from removal or replacement of roadway section. Measurement includes the removal of all wire regardless of the number of phase conductors specified.

Obtain measurements with electronic survey equipment and provide Engineer with printout of existing facilities indicating State Plane Coordinates and station numbers of each underground structure and pole structure and indicate distances between structures starting from the beginning of the Work (existing facility structure). There will be no measurement and payment for backfilling of voids left by removed underground equipment. Obtain approval from the Engineer of existing measurements prior to beginning removal Work.

I. Removal of Poles

Removal of Steel, Concrete, and Wood Poles will not be measured separately for payment. Removal is included in the measurement of the removal of overhead or underground electric distribution, permanent or temporary.

664.4.01 Limits

General Provisions 101 through 150

664.5 Payment

The Contract Unit Price for each Item shall include all costs incidental to the construction of the Item according to the Plans, Work Summary Location Report, and as specified in this Section. All such surplus items will become the property of Georgia Power Company unless otherwise specified. Payment for any Item listed below is full compensation for the Item or Items in place, operational, and accepted.

A. Overhead Electric Distribution

Overhead Electric Distribution and secondary/service lines will be paid for at the contract unit price per linear foot for each size (kV or V) facility installed. Payment is full compensation for material, handling, delivery, and storage of material and installation of material in accordance with the Plans and Work Summary Location Reports. Payment is full compensation for necessary handling and delivery of surplus material to Georgia Power Company. Payment is full compensation for all the necessary material, equipment and labor to install the Overhead Electric Distribution, including all items necessary and items specified in the Work Summary Location Report and Plans. Payment is full compensation for the entire linear feet required to span the portion of the project specified and to tie back to existing facilities. This includes items such as wire (regardless of the number of phase conductors specified), transformers, poles (wood, steel, or concrete), framing assemblies, utility assemblies, conductors, hardware, guy assemblies, street lights, switches, capacitor banks, reclosers and any other item(s)

necessary to provide for an in place and accepted operational Overhead Electric Distribution of the size specified in the Plans and Work Summary Location Report.

B. Overhead Electric Distribution (Temporary)

Temporary Overhead Electric Distribution and secondary/service lines will be paid for at the contract unit price per linear foot for each size (kV or V) facility installed. Payment is full compensation for material, handling, delivery, and storage of materials and installation of materials in accordance with the Plans and Work Summary Location Reports. Payment is full compensation for any work required to accommodate project staging, detours, or structures not shown on the Plans or Work Summary Location Reports. Payment is full compensation for necessary handling and delivery of surplus material to Georgia Power Company. Payment is full compensation for all the necessary material, equipment and labor to install the Temporary Electric Distribution, including all items necessary and items specified in the Work Summary Location Report and Plans. Payment is full compensation for the entire linear feet required to span the portion of the project specified and to tie back to existing facilities. This includes items such as wire (regardless of the number of phase conductors specified), transformers, poles (wood, steel, or concrete), framing assemblies, utility assemblies, conductors, hardware, guy assemblies, street lights, switches, capacitor banks, reclosers and any other item(s) necessary to provide for an in place and accepted operational Overhead Electric Distribution of the size specified in the Plans and Work Summary Location Report.

C. Underground Electric Distribution

Underground Electric Distribution will be paid for at the contract unit price per linear foot for each size (kV) facility installed. Payment is full compensation for material, handling, delivery, and storage of material and installation of material in accordance with the Plans and Work Summary Location Reports. Payment is full compensation for necessary handling and delivery of surplus material to Georgia Power Company. Payment is full compensation for all the necessary material, equipment and labor to install the Underground Electric Distribution, including all items necessary and items specified in the Work Summary Location Report and Plans. Payment is full compensation for the entire linear feet required to traverse, below grade, the portion of the project specified and to tie back to existing facilities. This includes items such as directional boring, wire (regardless of the number of phase conductors specified), conduit, transformers, vaults, switching cubicle, hardware, and any other item(s) necessary to provide for an in place and accepted operational Underground Electric Distribution of the size specified in the Plans and Work Summary Location Report. Payment of unsuccessful boring attempts will not be made. Successful directional bores will not be paid for separately.

D. Installation of Poles

No separate payment will be made for the installation of Steel, Concrete, or Wood Poles. Costs for the installation of poles are included in the price for overhead or underground electric distribution, permanent or temporary.

E. Installation of Electric Wire

No separate payment will be made for the installation of electric wire. Costs for the installation of electric wire are included in the price for overhead or underground electric distribution, temporary or permanent.

F. Removal of Overhead Electric Distribution

Removal of Overhead Electric Distribution and secondary/service lines will be paid for at the contract unit price per linear foot for each size (kV or V) facility removed. Payment is full compensation for removal, handling, delivery, storage, and surplus of materials. Payment is full compensation for necessary handling and delivery of surplus material to Georgia Power Company. Payment is full compensation for all the necessary material, equipment and labor to remove the Overhead Electric Distribution. Payment is full compensation for the entire linear feet removed back to existing or new facilities as shown on the plans. This includes items such as wire (regardless of the number of phase conductors specified), transformers, poles

(wood, steel, or concrete), framing assemblies, utility assemblies, conductors, hardware, guy assemblies, street lights, and any other item(s) necessary for complete removal.

All material removed and not re-used becomes the property of Georgia Power Company. Payment for Removal of Overhead Electric Distribution includes the removal, handling, delivery, and off- loading of all material at a Georgia Power Company Operating Headquarters specified by the Distribution Engineer.

G. Removal of Overhead Electric Distribution (Temporary)

Removal of Overhead Electric Distribution and secondary/service lines (Temporary) will be paid for at the contract unit price per linear foot for each size (kV or V) facility removed. Payment is full compensation for removal, handling, delivery, storage, and surplus of materials. Payment is full compensation for all the necessary equipment and labor to remove the Temporary Electric Distribution. Payment is full compensation for the entire linear feet removed back to existing or new facilities as shown on the Plans. This includes items such as wire (regardless of the number of phase conductors specified), transformers, poles (wood, steel, or concrete), framing assemblies, utility assemblies, conductors, hardware, guy assemblies, street lights, and any other item(s) necessary for complete removal.

All material removed and not re-used becomes the property of Georgia Power Company. Payment for Removal of Overhead Electric Distribution (Temporary) includes the removal, handling, delivery, and off -loading of all material at a Georgia Power Operating Headquarters specified by the Distribution Engineer.

H. Removal of Underground Electric Distribution

Removal of Underground Electric Distribution and secondary/service lines will be paid for at the contract unit price per linear foot for each size (kV or V) facility removed. Payment is full compensation for removal, handling, delivery, storage, and surplus of materials. Payment is full compensation for all the necessary equipment and labor to remove the Underground Electric Distribution. Payment is full compensation for the entire linear feet removed back to existing or new facilities as shown on the Plans. This includes removal of items such as wire (regardless of the number of phase conductors specified), conduit, transformers, vaults, hardware, and any other item(s) necessary for complete removal.

All material removed and not re-used becomes the property of Georgia Power Company. Payment for Removal of Overhead Electric Distribution includes the removal, handling, delivery, and off-loading of all material at a Georgia Power Operating Headquarters specified by the Distribution Engineer.

I. Removal of Poles

No separate payment will be made for the removal of Steel, Concrete, or Wood Poles. Costs for the removal of poles are included in the price for removal of overhead or underground electric distribution, permanent or temporary.

Payment will be made under:

Item No. 664	Overhead Electric Distribution - _____kV	Per linear foot (meter)
Item No. 664	Overhead Electric Distribution (Secondary/Service) - _____kV	Per linear foot (meter)
Item No. 664	Overhead Electric Distribution (Temporary) - _____kV	Per linear foot (meter)
Item No. 664	Underground Electric Distribution - _____kV	Per linear foot (meter)
Item No. 664	Removal of Overhead Electric Distribution - _____kV	Per linear foot (meter)

Item No. 664	Removal of Overhead Electric Distribution (Secondary/Service) - ____kV	Per linear foot (meter)
Item No. 664	Removal of Overhead Electric Distribution (Temporary) - _____kV	Per linear foot (meter)
Item No. 664	Removal of Underground Electric Distribution - _____kV	Per linear foot (meter)

664.5.01 Adjustments

General Provisions 101 through 150

Office of Utilities

First Use Date: January 26, 2007
1st Revised: February 14, 2008
2nd Revised: March 30, 2011
3rd Revised: August 23, 2012

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

SPECIAL PROVISION

PROJECT NO:

PI NO: 0015524

Section 665—Gas Distribution System

Add the following:

665.1 General Description

This Work consists of furnishing materials, labor, tools, equipment, and other items necessary for the complete installation abandonment, removal, relocation, and adjustment of gas distribution systems in accordance to the plans and Specifications.

665.1.01 Definitions

General Provisions 101 through 150

Whenever the terms "Company" or [Name of Utility] Natural Gas are used in this Special provision and its related documents, it shall be understood to mean [Name of Utility] Natural Gas its subsidiaries, successors and/or assigns.

The term "Project Coordinator" shall mean the Company's authorized individual having the authority to give instructions pertaining to the work, to approve or reject the work, and otherwise represent the Company. The "Project Coordinator" shall not however be authorized to revoke, alter, enlarge, relax, or release any requirements of the Contract, Plans, and Specifications nor will they act as an agent for the Contractor.

Blast/Hammer Rock: Any formation requiring blasting or means other than a backhoe or ditching machine.

665.1.02 Related References

General Provisions 101 through 150.

A. Standard Specifications

Section 104—Scope of Work

Section 107—Legal Regulations and Responsibility to the Public

Section 108—Prosecution and Progress

Section 205—Roadway Excavation

Section 207—Excavation and Backfill for Minor Structures

Section 210—Grading Complete

Section 400—Hot Mix Asphaltic Concrete Construction

Section 444—Sawed Joints in Existing Pavements

Section 500—Concrete Structures

Section 611—Relaying, Reconstructing or Adjusting to Grade of Miscellaneous Roadway Structures

Section 615—Jacking or Boring Pipe

Section 810—Roadway Materials

B. Related Documents

[Insert relevant documents from utility company]

665.1.03 Submittals

General Provisions 101 through 150.

Refer to the [insert utility company document], current published edition, for gas utility submittal requirements.

A. As-Built Documentation

Submit to the Project Coordinator and the Engineer as built documentation of all work provided in accordance with this specification prior to Final Acceptance of the Project. Include in the as-built documents the following documents as a minimum as they are applicable. Supply any installation diagrams at the time of installation. Deliver as-builts no later than 30 days after completion of installation.

1. As Built Drawings
   Provide the Department and [name of utility company] Natural Gas with drawings that detail the final installation route of all gas facilities.

   Except for standard bound materials, bind all 8.5”x11” (A4) documentation, including 11” x 17” (A3) drawings folded to 8.5”x11” (A4), in logical groupings in loose-leaf binders of either the 3-ring or plastic slide-ring type. Permanently and appropriately label each such bound grouping of documentation.

   Furnish at least five (5) copies of all bound documentation to both the Engineer and the Project Coordinator.

665.2 Materials

A. Gas Main and Service Line Pipes, Fittings, and Appurtenances

Ensure all materials provided are in conformance with the requirements and standards set forth in the [name of utility company document], current published edition.

B. Gas Regulator Station

Materials to be included in a gas regulator station shall be as follows:

Item #	Quantity	Description
1	3	2" Weld Tee Sch 40
2	1	2" Weld Ell 90 degree Sch 40
3	2	2" Kerotest Weldball Valve ANSI 300 Regular Port WxW
4	5	1/2" Ball Valve 1000# rated, 1/2"x3" Sch 80 Nipple, 1/2" Threadolet, !/2" Heavy Steel Screw Plug
5	2	2" Fisher 627 Regulator - 1/4" orifice 40# set pressure
6	3	2" Kerotest Weldball Valve ANSI 150 Regular Port WxW
7	1	2" x 6" Sch 80 Steel Nipple Threaded One End
8	1	1" Fisher 1808 Right Angle Body Relief Valve set 45"
9	2	2" x 3" Sch 80 Steel Nipple
10	1	2"x2"x2" Heavy Steel Threaded Tee
11	3	2" Sch 80 Steel Pipe Cut to Length
12	1	2" Rain Cap
13	1	2" Heavy Steel Screw Cap
14	1	1/2" Ball Valve 1000# rated, 1/2"x3" Sch 80 Nipple, 1/2" Threadolet, !/2" - 3" Dial Pressure Gauge 0-100# Range
15	1	1/2" Ball Valve 1000# rated, 1/2"x3" Sch 80 Nipple, 1/2" Threadolet, 1/2" - 3" Dial Pressure Gauge 0-500# Range

665.2.01 Materials Certification

For certain products, assemblies, and materials, in lieu of normal sampling and testing procedures by the Contractor, the Company, and the Department, the Engineer and Project Coordinator may accept from the Contractor the manufacturer's certification with respect to the product involved, under the conditions set forth in the following paragraphs:

1. Ensure certification states/specifies the named product conforms to the [name of utility company document] and representative samples thereof have been sampled and tested as specified.
2. The certification shall either:
   a. Is accompanied with a certified copy of the test results, or
   b. Certify such test results are on file with the manufacturer and will be furnished to the Engineer and Project Coordinator upon demand.
3. Ensure certification states/specifies the name and address of the manufacturer and the testing agency and the date of tests; and sets forth the means of identification which will permit field determination of the product delivered to the project as being the product covered by the certification.
4. Submit certification in duplicate with one copy to be sent with the shipment of the covered product to the Department's Project Engineer, and with one copy sent to the Department's State Materials and Research Engineer at 15 Kennedy Drive, Forest Park, Georgia. Ensure certification specifies the project number and contract ID number.

   No Certificate will be required for Portland Cement when furnished from a manufacturer approved by the Department.
5. The Department or the Company will not be responsible for any costs of certification or for any costs of the sampling and testing of products in connection therewith.
6. The Department and the Company reserves the right to require samples and to test products for compliance with pertinent requirements irrespective of prior certification of the products by the manufacturer. Any materials that fail to meet specification requirements will be rejected.

665.2.02 Delivery, Storage, and Handling

General Provisions 101 through 150.

Follow all delivery, storage and handling procedures set forth in the [name of utility company document], current published edition.

665.3 Construction Requirements

665.3.01 Personnel

General Provisions 101 through 150.

Ensure that the construction and installation of all gas utilities is performed by a contractor prequalified/registered by [name of utility company]. A prequalified contractor shall be used. Contact [name of utility company] at the following to obtain the current list of [name of utility company] prequalified Contractors:

[name of utility company]

[name of utility company contact person]

[utility company address]

[utility company phone numbers]

665.3.02 Equipment

General Provisions 101 through 150.

Ensure all equipment used is in conformance with the requirements and standards set forth in the [name of utility company document], current published edition.

665.3.03 Preparation

General Provisions 101 through 150.

Follow all preparation procedures set forth in the [name of the utility company document], current published edition.

665.3.04 Fabrication

General Provisions 101 through 150.

Ensure fabrication procedures and requirements conform to those set forth in the [name of the utility company document], current published edition.

665.3.05 Construction

A. Permission to Enter Private Property

Comply with Section 107—Legal Regulations and Responsibility to the Public

Through an agreement between the Department and the Company; the Contractor is given the permission to enter upon private properties found outside the project's construction limits. This permission is granted for the sole purpose of installing gas service lines only and is limited to the area of existing easements obtained by the company. Such permission to enter upon private properties is temporary and such rights shall commence upon project award and automatically expire upon completion and project final acceptance by the Department.

In all cases where it is necessary to enter upon private property; it is the Contractors sole responsibility to minimize any disruptions to personal property in the commencement of such work thereof. Additionally the following restrictions and requirements shall apply:

1. All work is limited to the installation, relocation, or replacement of gas service lines, including the work necessary to restore each private property as required in number 6 of this subsection.
2. Notify the Engineer and the private property owner, and resident 72 hours before commencing work on said private property.
3. No vehicles or equipment shall be allowed on any private property except for that which is normally required for the installation of said gas service lines.
4. Do not store any materials, vehicles, or equipment on any private property longer than the duration required to perform the said gas service line installation.
5. Do not use any private property as an on-site detour or vehicle path.
6. Immediately following any construction located on private property the contractor at its sole expense shall restore all areas of the same parcel to a condition substantially the same as existed immediately prior to any such disturbances, including without limitation, any and all necessary repairs, and replacement of grassing, landscaping and pavement which may be removed and excavated by the Contractor. Additionally, the Contractor shall be responsible for all necessary repairs to restore the original contours and re-establish the ground cover to control erosion.

B. Finding Existing Underground Utilities and Obstructions

Comply with Subsection 107.13 and Subsection 107.21.

When unforeseen conflicts require Plan changes, perform the work as altered according to Subsection 104.03 and Subsection 104.04.

Follow all customer notification requirements and obtain approval from the Project Coordinator prior to disrupting existing any gas services required for the installation of the gas facilities shown on the project plans.

C. Excavating Trenches

Excavate trenches to the proper grade, depth, and width as follows:

7. Trench to Grade

   Ensure excavated trench bottoms are firm, free from boulders, and conform to the established grade.

   a. Backfill, according to Subsection 665.3.05.G, any part of the trench excavated below the established grade. Use Class I or Class II Soils (Section 810), and firmly compact the soil.

   b. Where the established grade of a trench is in rock, undercut the bottom of the trench by at least 6 in (150 mm), then backfill and compact according to Subsection 665.3.05.G.

      Conduct blasting operations strictly according to Subsection 107.12.

   c. Excavate trenches under pavement to grade as follows:

      1) To remove the pavement, cut it at least 24 in (600 mm) wider than each trench edge to provide solid bearing for the pavement edges when replaced. Remove the pavement according to Section 444, except no separate payment will be made for sawed joints.

      2) Directional Bore under existing sidewalks, curbs, gutters, and pavements according to Section 555.

3) Where possible, jack pipe under an existing pavement according to Section 615, except no separate payment will be made for jacking and boring pipe.

8. Minimum Trench Depth

   Excavate trenches to provide at least 48 in (1.2 m) cover depth from the pipe to the finished pavement surface, sidewalk, grass plot, etc. unless indicated otherwise on the Plans or by the Engineer.

   If any part of a gas main is to be placed in or under a new embankment, finish the embankment to at least a 2 ft (600 mm) plane above the pipe barrel before excavating the trench.

9. Trench Width

   Excavate trenches wide enough to allow proper installation of pipe, fittings, and other materials.

D. Directional Boring

1. Install gas mains and services by means of directional boring at locations shown on the plans or where approved by the Engineer.
2. Ensure the trench width of the excavation conforms to the outside diameter of the pipe as closely as possible.
3. Remove and replace pipe damaged in boring operations at no additional expense to the Department.
4. Use an approved mix to pressure grout voids developed during the installation operation and the Engineer determines are detrimental to the Work.
5. In unconsolidated soil formations, use a gel-forming collodial drilling fluid with at least 10 percent of high grade carefully processed bentonite to consolidate excavated material, seal the walls of the hole, and lubricate subsequent removal of material and immediate pipe installation.
6. Follow all relevant procedures set forth in the [name of utility company document], current published edition.
7. Ensure the total installation includes a locatable conduit system, with identification markers on each DOT right-of-way fence line where applicable.
8. Continuously monitor the location and alignment of the pilot drill progress to ensure compliance with the proposed installation alignment and to verify depth of the bore. Ensure Monitoring is accomplished by computer generated bore logs which map the bore path based on information provided by the locating/tracking system. Ensure readings or plots are obtained on every drill rod, and are provided to the Inspector on a daily basis. Upon completion of the bore the Contractor will furnish the Engineer an As-built drawing along with a report of the Monitoring of the drilling fluids during the pilot hole and back reamed hole.
9. Ensure excess drilling fluids are contained at the entry and exit points until recycled or removed from the site as directed by the Engineer at no additional cost to the Department.. Ensure that all drilling fluids are disposed of in a manner acceptable to the appropriate local, state and federal regulations. The Contractor's work will be immediately suspended by the Engineer whenever drilling fluids seep to the surface other than in the boring entrance or exit pit, or when a paved surface is displaced. The Contractor shall then propose a method to prevent further seepage and/or displacement, and shall remove and dispose of any drilling fluid, slurry and soil from the paved surface prior to resuming the boring operation.
10. Ensure surfaces damaged by the work are restored to their preconstruction conditions at no additional cost to the Department, and with no increase in contract time.

E. Connecting to Existing Gas Mains

Connect to existing gas mains at locations shown on the Plans or where approved by the Engineer or Project Coordinator.

Follow all relevant procedures set forth in the [name of utility company document], current published edition.

F. Laying Gas Mains and Appurtenances

Follow all relevant procedures set forth in the [name of utility company document], current published edition.

G. Installing Gas Mains

Install gas mains at locations shown on the Plans or where approved by the Engineer or Project Coordinator.

Follow all relevant procedures set forth in the [name of utility company document], current published edition.

1. Backfilling

   Furnish equipment, labor, and when necessary material required for backfilling the pipe line trenches according to Section 207.

   d. When testing for leaks in open trenches, do not backfill until testing is complete and leaks are eliminated.

   e. When retaining pavement adjacent to trenches, replace removed pavement with the same or better material when approved.

   f. After backfilling, maintain a smooth riding surface until the repaving is complete. No separate payment will be made for replaced pavement unless a bid Item for this work is contained in the Proposal.

H. Laying Service Lines and Appurtenances

Install service lines at locations shown on the Plans or where approved by the Engineer or Project Coordinator. Install new pipe from the gas main to the final location of the meter or to points approved by the Engineer to connect with existing or future service lines on abutting property.

Follow all relevant procedures set forth in the [name of utility company document], current published edition.

I. Lowering Existing Gas Lines

Lower existing gas mains and services at locations shown on the plans or where approved by the Engineer or Project Coordinator.

Follow all relevant procedures set forth in the [name of utility company document], current published edition.

J. Service Line Tie-Over

Tie existing service line to new service line as shown on the plans or where approved by the Engineer or Project Coordinator. Install new pipe from the gas main to the final location of the Service Line Tie-Over or to points approved by the Engineer or Project Coordinator to connect with existing service lines on abutting property.

Follow all relevant procedures set forth in the [name of utility company document], current published edition.

K. Regulator Station

Install new gas regulator station at locations shown on the plans or where designated by the Engineer or Project Coordinator.

Construct all piping, valves, and regulator in accordance with the following detail.

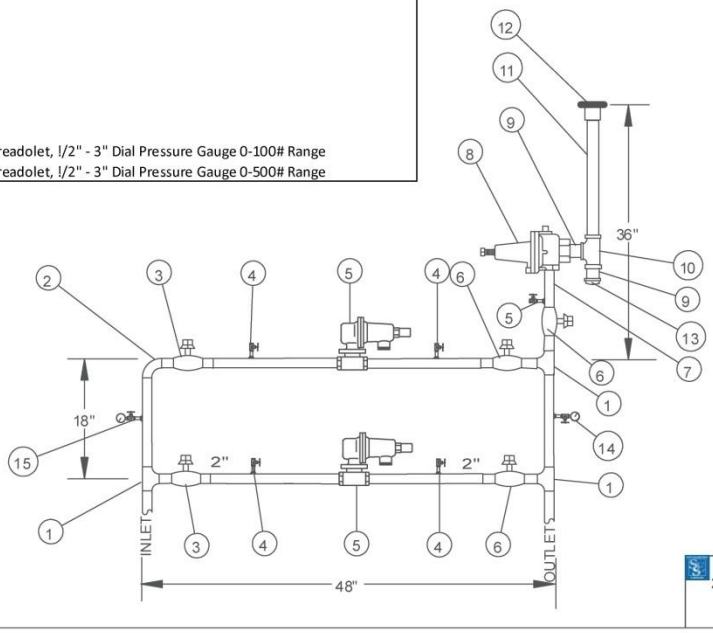
L. Raising/Lower Existing Gas Valves

Raise/lower existing gas valves at locations shown on the plans or where approved by the Engineer or Project Coordinator.

Follow all relevant procedures set forth in the [name of utility company document], current published edition.

Natural Gas Regulator station Detail

Item #	Quantity	Description
1	3	2" Weld Tee Sch 40
2	1	2" Weld Ell 90 degree Sch 40
3	2	2" Kerotest Weldball Valve ANSI 300 Regular Port WxW
4	5	1/2" Ball Valve 1000# rated, 1/2"x3" Sch 80 Nipple, 1/2" Threadolet, !/2" Heavy Steel Screw Plug
5	2	2" Fisher 627 Regulator - 1/4" orifice 40# set pressure
6	3	2" Kerotest Weldball Valve ANSI 150 Regular Port WxW
7	1	2" x 6" Sch 80 Steel Nipple Threaded One End
8	1	1" Fisher 1808 Right Angle Body Relief Valve set 45"
9	2	2" x 3" Sch 80 Steel Nipple
10	1	2"x2"x2" Heavy Steel Threaded Tee
11	3	2" Sch 80 Steel Pipe Cut to Length
12	1	2" Rain Cap
13	1	2" Heavy Steel Screw Cap
14	1	1/2" Ball Valve 1000# rated, 1/2"x3" Sch 80 Nipple, 1/2" Threadolet, !/2" - 3" Dial Pressure Gauge 0-100# Range
15	1	1/2" Ball Valve 1000# rated, 1/2"x3" Sch 80 Nipple, 1/2" Threadolet, !/2" - 3" Dial Pressure Gauge 0-500# Range



2" Regulator Station Detail

665.3.06 Quality Acceptance

A. Testing Gas Mains and Service Connections

Follow all relevant procedures set forth in the [name of utility company document], current published edition.

B. Semi-Final Utility Inspection

When the contractor has finished the Gas Distribution System Work, the Contractor may, by written notice, request that a semi-final utility inspection be made. The Engineer, along with the Project Coordinator, will determine if the Gas Distribution System Work is ready for semi-final utility inspection. The Engineer, in agreement with the Project Coordinator, will have the final decision on when the Gas Distribution System Work is complete and thereby ready for semi-final utility inspection. If all the Gas Distribution System Work provided for and contemplated by the Contract is found to be complete to the Engineer's satisfaction and all documents required in connection with the Gas Distribution System Work has been submitted and accepted then, the Contractor may request transfer of the completed Gas Distribution System Work to [name of utility company].

Once the new facilities are in service and accepted by the Company, provide written correspondence notifying the Engineer and Owner that utility location services will be the responsibility of [name of utility company].

Such partial acceptance shall in no way relieve the Contractor of the responsibility for satisfactory completion of the Contract, or for failure of any portion of the Gas Distribution System Work prior to Final Acceptance of the Project.

665.3.07 Contractor Warranty and Maintenance

General Provisions 101 through 150.

665.4 Measurement

Gas mains, service lines, and other items of work in this Specification, complete, in place, and accepted, are measured for payment as follows:

A. Gas Mains

Gas mains are measured in linear feet (meter) for each size installed. The mains are measured along the center, parallel to the slope of the pipe, from end of each installation through all valves and fittings, and shall include the installation of valves, anodes, test wires, and test stations as dictated by the [name of utility company document], current published edition.

B. Fittings

Pipe fittings are considered incidental to the gas line in which they are used and are not measured for separate payment.

C. Tie-ins and Valves Installations

All tie-ins and valve installations associated with tie-ins and regulator stations are not measured for separate payment and shall be included in the per foot price of installed gas main.

D. Service Line Tie-Over

Service line Tie-Overs are measured by the number of each size, material, and type installed. The types specified will either be short side service tie-over for those that do not require the crossing of a street or roadway; and long side service tie-over when the installation will span a roadway.

E. Service Lines

Service lines are measured by the number of each size, material, and type installed. The types specified will either be short side service for those that do not require the crossing of a street or roadway; and long side service when the installation will span a roadway.

F. Gas Facilities to be Abandoned or Removed

The abandonment or removal of all deactivated facilities is not measured for separate payment and shall be included in the per foot price of installed gas main. Abandoned or removal of facilities include: main, valves, service, service risers and regulator stations and pits.

G. Blast/Hammer Rock

Blast/Hammer Rock is not measured for payment separately.

H. Gas Main and Service Testing

There is no separate measurement for payment on the testing of gas mains and services, as required by the Company and addressed in the [name of utility company document].

I. Steel Casing

Steel Casings are measured per linear foot (meter) for each size of casing installed. Payment is full compensation for furnishing all materials, excavating, backfilling, removing, and replacing pavement, and providing other incidentals necessary to complete the Item.

J. Regulator Station

This will be measured per each for each size of regulator installed.

K. Excavation for Trenches or Directional Boring

Excavation or Directional Boring is not measured for payment separately, but their costs are included in the amount bid for the Item to which it pertains.

L. Incidentals

Backfilling, pavement removed, pavement replaced, and other incidentals are not measured for separate payment.

M. Raise/Lower Gas Valves

This will be measured per each for gas valves raised or lowered.

665.4.01 Limits

General Provisions 101 through 150.

665.5 Payment

The Contract Unit Price for each Item, complete and accepted, will include all costs incidental to the construction of the Item according to the Plans and as specified in this Section.

The Unit Prices bid will include due allowance for the salvage value of all materials removed from existing or temporary lines, and not installed in the completed work. All such surplus items will become the property of the Contractor unless otherwise specified.

Payment for any Item listed below is full compensation for the Item or Items, complete in place. When placing gas mains or service lines in casings, receive separate payment for the cost of furnishing and installing the casings.

A. Gas Mains

Gas Mains will be paid for at the Contract Unit Price per linear foot (meter) for each size of pipe installed. Payment is full compensation for furnishing all materials including fittings, excavating, backfilling, removing, and replacing pavement, testing and sterilizing, and providing other incidentals necessary to complete the Item. Payment will also include the cost of laying pipe in casing when required.

B. Service Line Tie-Over

Service Line Tie-Overs will be paid for at the Contract Unit Price per each for each type (Long Side, or Short Side), size and material installed. Payment is full compensation for excavating, erosion control, backfilling, removing, and replacing pavement, testing and placing fittings, jointing, and connecting to the main, and providing other incidentals necessary to complete the Item. Payment will also include all work referenced in Section 665.3.05.A.6 of this specification and laying pipe in casing when required.

C. Service Lines

Service Lines will be paid for at the Contract Unit Price per each for each type (Long Side, or Short Side), size and material installed. Payment is full compensation for excavating, erosion control, backfilling, removing, and replacing pavement, testing and placing fittings, jointing, and connecting to the main, and providing other incidentals necessary to complete the Item. Payment will also include all work referenced in Section 665.3.05.A.6 of this specification and laying pipe in casing when required.

D. Excavation for Trenches or Directional Boring

No separate payment will be made for excavation or directional boring.

E. Blast/Hammer Rock

No separate payment will be made for Blast/Hammer Rock, but its costs are included in the project's total amount bid for earthwork.

F. Steel Casing

Steel Casings will be paid for at the Contract Unit Price per linear foot (meter) for each size of casing installed. Payment is full compensation for furnishing all materials, excavating, backfilling, removing and replacing pavement, and providing other incidentals necessary to complete the Item.

G. Regulator Station

This will be paid for at the Contract Unit Price per each for each size of regulator installed. Payment is full compensation for furnishing all materials, excavating, backfilling, removing and replacing pavement, and providing other incidentals necessary to complete the Item.

H. Raising/Lowering Gas Valves

This will be paid for at the Contract Unit Price per each for gas valve raised or lowered. Payment is full compensation for furnishing all materials, excavating, backfilling, removing and replacing pavement, and providing other incidentals necessary to complete the Item.

Payment will be made under:

Item No. 665	Plastic Gas Main_____ in (mm)	Per linear foot (meter)
Item No. 665	Steel Gas Main _____ in. (mm)	Per linear foot (meter)
Item No. 665	Steel Casing_____ in (mm)	Per linear foot (meter)
Item No. 665	Long Side Service ___in (mm),(material)	Per each
Item No. 665	Short Side Service ___in (mm),(material)	Per each
Item No. 665	Long Side Service Tie-Over ___in (mm),(material)	Per each
Item No. 665	Short Side Service Tie-Over ___in (mm),(material)	Per each
Item No. 665	Regulator Station _____in. (mm)	Per each
Item No. 665	Raise/Lower Gas Valve	Per each

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

SPECIAL PROVISION

PROJECT:FY 17 Bridge Replacement

COUNTY: Dodge, Dooly, Colquitt, Quitman, Echols, Thomas

P.I.:0015524

Section 670—Water Distribution System

Delete Section 670 and substitute the following:

670.1 General Description

This work consists of furnishing materials, labor, tools, equipment, and other items necessary for installing, removing, abandoning, relocating, and adjusting water distribution systems according to the Plans and Specifications.

670.1.01 Definitions

A. General Provisions 101 through 150

B. The term "The Facility Owner" shall be understood to mean "place utility company name" or "add if more than one company".

C. The term "Project Manager" shall mean the authorized individual having the authority to give instructions pertaining to the work and to approve or reject the work. The "Project Manager" shall not however be authorized to revoke, alter, enlarge, relax, or release any requirements of the Contract, Plans, and Specifications, nor shall they act as an agent for the Contractor. All Contract items pertaining to the Utility Owner shall be coordinated with the Georgia Department of Transportation's (GDOT) Project Manager and the Utility Owner.

670.1.02 Related References

A. Standard Specifications

Section 104—Scope of Work

Section 107—Legal Regulations and Responsibility to the Public

Section 108—Prosecution and Progress

Section 205—Roadway Excavation

Section 207—Excavation and Backfill for Minor Structures

Section 210—Grading Complete

Section 400—Hot Mix Asphaltic Concrete Construction

Section 444—Sawed Joints in Existing Pavements

Section 500—Concrete Structures

Section 600—Controlled Low Strength Flowable Fill

Section 611—Relaying, Reconstructing or Adjusting to Grade of Miscellaneous Roadway Structures

Section 615—Jacking or Boring Pipe

Section 810—Roadway Materials

B. Related Documents

1. General Provisions 101 through 150.
2. All products supplied and all work performed shall be in accordance with The Facility Owner's Standard Specifications, applicable standards from American Society for Testing and Material (ASTM), American Water Works Association (AWWA), American National Standards Institute (ANSI), GDOT Utility Accommodation Policy and Standards, and the Georgia Environmental Protection Division (EPD) Minimum Standards for Public Water Systems. Latest revisions of all standards shall apply.

670.1.03 Submittals

A. General Provisions 101 through 150.

B. Refer to The Facility Owner's Standard Specifications, current published edition, for water utility submittal requirements. Copies of all submittals and documentation shall be submitted to GDOT, who shall distribute to the Utility Owner.

C. Shop Drawings / Product Data

1. Submit [6] copies of the following submittals to the GDOT Project Manager:
   a. Product data, including size, dimension, capacity, pressure rating, accessories, and special features, installation instructions, and operating characteristics for all proposed materials to show compliance with the requirements of this Special Provision.
   b. Test reports specified in the Quality Acceptance section of this Special Provision.
   c. Pipe manufacturer certification of compliance with specifications.
   d. Operation and maintenance literature, warranties, and other specified information.

D. Construction Record Documentation

1. The Contractor shall record on two sets of utility as-built drawings that will record changes and deviations from the Contract Drawings in sizes, lines or grade. Record also the exact final horizontal and vertical locations of underground utilities and appurtenances to an accuracy of +/- 0.2 ft, referenced to permanent surface improvements. Drawings shall utilize State Plane Coordinates and shall be legibly marked to record actual construction and submitted to GDOT no later than 30 days after installation and prior to Final Acceptance of the Project. The Utility Owner shall determine if the utility record drawings are complete prior to Final Acceptance of the project.
2. Record Drawings shall be signed and sealed by a professional engineer or land surveyor registered in the State of Georgia.
3. Record Drawings shall also be submitted in digital format as indicated in accordance with the Department's current Electronic Utility File Guidelines.
4. Except for standard bound materials, bind all 8.5"x11" (A4) documentation, including 11" x 17" (A3) drawings folded to 8.5"x11" (A4), in logical groupings in loose-leaf binders of either the 3-ring or plastic slide-ring type. Permanently and appropriately label each such bound grouping of documentation.

670.1.04 Quality Assurance

A. The Contractor shall comply with applicable codes, ordinances, rules, regulations and laws of local, municipal, state or federal authorities having jurisdiction over the Project.

B. Furnish manufactured items, pipe, fittings, valves, service components, and appurtenances from manufacturers having regularly produced such items as specified herein which have proven satisfactory in actual service, over at least a 2-year period, or as approved by the Utility Owner and GDOT.

C. Regardless of tolerances permitted by industry standards specified herein, the Utility Owner or the GDOT Project Manager may reject pipe or appurtenances at the manufacturing plant or project site which have cracks, chips, blisters, rough interior or exterior surface, evidence of structural weakness, joint defects, or other imperfections that might in the opinion of the Project Manager contribute to reduced functional capability, accelerated deterioration or reduced structural strength.

D. The Utility Owner and the Utility Owner's consultant shall have the right to visit and inspect the work at any time. The Utility Owner may also have an Inspector assigned to the project authorized to inspect portions or all of the utility work done and the preparation, fabrication, or manufacture of the materials to be used. The Utility Owner shall be able to advise GDOT Project Manager of any observed discrepancies or potential problems. The cost of these inspections shall be the responsibility of the Utility Owner.

E. GDOT shall notify the Utility Owner before authorizing any changes or deviations which might affect the Utility Owner's facilities. Contractor shall notify GDOT and Utility Owner a minimum of 24 hours prior to beginning work on utilities.

F. The Utility Owner shall be notified by GDOT Project Manager when all utility work is complete and ready for final inspection. The Utility Owner shall be invited to attend the final inspection and may provide a corrections list to GDOT Project Manager prior to the final inspection.

G. The Contractor shall verify the actual location and depth of all utilities prior to construction. All utilities and structures shall be protected during construction. Any damaged facilities shall be repaired or replaced at the Contractor's expense.

670.2 Materials

All materials provided shall be in conformance with the requirements and standards set forth in The Facility Owner's Standard Specifications, current published edition. All pipeline and appurtenance materials in contact with potable water shall be National Sanitation Foundation (NSF) 61 Certified and part of GDOT QPL list.

Pipes and appurtenances shall comply with Section 1417(a)(1) of the Safe Water Drinking Act as amended in 2011 which prohibits the use of any pipe, any pipe or plumbing fitting or fixture, and solder, or any flux, after June 1986, in the installation or repair of (i) any public water system; or (ii) any plumbing in a residential or non-residential facility providing water for human consumption, that is not lead free as defined in Section 1417(d).

670.2.01 Water Piping systems and Appurtenances

A. Ductile Iron Pipe and Fittings

1. Ductile iron pipe shall meet the latest edition of ANSI/AWWA C150/A21.50 and C151/A21.51 for the class and joint specified with a nominal laying length of 18 (5.5 m) to 20 feet (6 m). Joints for buried ductile iron pipe shall be mechanical or push-on joints. Unless specified otherwise in The Facility Owner's Standard Specifications, ductile iron pipe diameters 12 inch (300 mm) or less shall be minimum Pressure Class 350, while pipe diameters greater than 12 inch (300 mm) shall be minimum Pressure Class 250.
2. Ductile iron pipe for the interior of structures and above ground installations shall be flanged. Flanges shall be ductile iron and shall be threaded-on flanges conforming to ANSI/AWWA C115/A21.15 or cast-on flanges conforming to ANSI/AWWA C110/A21.10. The minimum class thickness for ductile iron flanged pipe to be threaded is Class 53.
3. Interior surfaces of ductile iron pipe and fittings shall be cement mortar lined in accordance with AWWA C104.

4. Ductile iron shall have an exterior coating as specified in AWWA C151 for ductile iron pipe and AWWA C153/C110 for ductile iron fittings.
5. Buried ductile iron pipe and fittings shall be polyethylene encased at locations indicated on the Plans or as conditions warrant. Polyethylene encasement tubing shall be in accordance with ANSI/AWWA C105/A21.5 and ASTM A674 and shall have a minimum thickness of 8 mils. Polyethylene encasement tubing shall be blue in color to designate potable water.
6. Fittings: Ductile iron fittings shall be epoxy coated and meet the requirements of ANSI/AWWA C153/A21.53 or ANSI/AWWA C110 A21.10 with a minimum pressure rating of 250 psi. Ends shall be restrained mechanical joint. All ductile iron fittings shall bear the NSF approval seal for potable water pipe.
7. Mechanical Joint Fittings: Mechanical joints consisting of bell, socket, gland, gasket, bolts, and nuts shall conform to ANSI/AWWA C111/A21.11.
8. Push-On Joints: Push-on joints shall be designed in accordance with ANSI/AWWA C111/A21.11. Joint lubrication shall be as furnished by the manufacturer.
9. Rubber gasket joints for push-on or mechanical joints shall conform to the requirements of ANSI/AWWA C111/A21.11.
10. Restrained Joints: Restrained joints shall be provided as shown on the Plans and where required for thrust restraint. Restrained joints shall not require field welding or grooves cut into the pipe barrel for restraint. The restraining joints for mechanical joint fittings shall conform to the requirements of ANSI/AWWA C111/A21.11 with assembly in conformance with AWWA C600 and manufacturer's recommendations. Restrained joints for pipe shall be mechanical joints with ductile iron retainer or push-on type joints and shall have a minimum rated working pressure of 250 psi.
11. Mechanical joint retainer glands may be used to restrain mechanical joint pipe and fittings to the plain end of ductile iron pipe and fittings. Restrainer glands shall be manufactured of ductile iron per ASTM A536.
12. Corrosion-resistant bolts used with ductile iron joints shall be high-strength, low-alloy steel as specified in ANSI/AWWA C111/A21.11.
13. Welded Outlets: Welded outlets in ductile iron pipe shall be provided where specified and indicated on the Plans. Outlets shall be fabricated by welding sections of ductile iron pipe manufactured in accordance with ANSI/AWWA C151/A21.51. Welded outlet pipe shall be fabricated only by the pipe manufacturer. The minimum ductile iron pipe thickness for fabrication of welded outlet pipe shall be Thickness Class 53 for 4-inch to 54-inch (100 to 1350 mm) diameter pipe. All joints on welded-on branch outlets shall be provided in accordance with the latest revision of ANSI/AWWA C111/A21.11 and/or ANSI/AWWA C115/A21.15, as applicable. After the outlets are welded together and prior to finishing, the assembly shall be subjected to a 15 psi air test for leakage. The maximum size and laying length of the welded-on branch outlet shall be recommended by the pipe manufacturer and acceptable to the Utility Owner for the field conditions and connecting pipe or valve.

B. Polyvinyl Chloride (PVC) Pipe

1. PVC pipe diameters 4-inch through 12-inch (100 mm to 300 mm) shall meet ANSI/AWWA C900 requirements, and shall be a minimum pipe dimension ratio (DR) 18, Pressure Class 235 psi. PVC pipe diameters 14-inch (350 mm) and greater shall meet ANSI/AWWA C905 requirements, shall be DR 18 minimum, Pressure Class 235 psi. Pipe shall have a bell with an integral wall section with a factory installed, solid cross section elastomeric ring in accordance with ASTM F477.
2. All PVC pipe shall be formulated for sunlight exposure, be blue in color to designate potable water, and bear the NSF approval seal.
3. Joints for 4-inch (100 mm) and larger PVC pipe shall meet the requirements of AWWA C900/C905, latest edition. The rubber gaskets used for the joints shall consist of flexible elastomeric material conforming to ASTM F477.

4. PVC pipe shall have the same outside diameter (OD) as ductile iron pipe and be compatible for use with ductile iron fittings.
5. Fittings for PVC pipe 4 inches (100 mm) and larger shall be ductile iron mechanical joint and comply with the requirements set forth in the specifications for Ductile Iron Pipe and Fittings.
6. Restrained Joints: Restrained joints shall be provided as shown on the Plans and where required for thrust restraint. Restrained joints shall comply with the requirements set forth in the specifications for Ductile Iron Pipe and Fittings.
7. Unless specified otherwise in the Plans or The Facility Owner's Standard Specifications, 2-inch (50 mm) and 3-inch (75 mm) diameter PVC pipe shall conform to the requirements of ASTM D2241 Class 1120 or 1220 (SDR 21) with a working pressure rating of 200 psi with integral bell gasketed joints. Pipe is to be manufactured to IPS standard pipe equivalent outside diameters.
8. Schedule 80 PVC pipes smaller than 4-inch (100 mm) nominal diameter shall be in accordance with ASTM D1785. Schedule 80 pipe shall have threaded joints. Solvent cemented joints are not allowed for buried pipes. Threaded type fittings for Schedule 80 PVC pipe shall be in conformance with ASTM D2464. All threaded joints shall be watertight.
9. Flanges for Schedule 80 PVC pipe shall be rated for a 150 psi working pressure with ANSI B16.1 dimensions and bolting pattern. Flanges shall be connected to PVC piping with threaded joints in accordance with ASTM D2467 or ASTM 2464, respectively.

C. Fusible PVC Pipe

1. Fusible PVC pipe sizes 4-inch (100 mm) to 36-inch (900 mm) shall conform to AWWA C900/C905 as applicable and follow the dimension ratios (DR) set forth in the requirements listed for PVC pipe.
2. Fusible PVC pipe shall be blue in color to designate potable water.
3. Fusible PVC pipe shall be extruded with plain ends. The ends shall be square to the pipe and free of any bevel or chamfer. There shall be no bell or gasket of any kind incorporated into the pipe.
4. Fusible PVC pipe shall be manufactured in a standard 40-foot nominal length-, or custom lengths as specified.
5. Joints shall be made by butt fusing sections of pipe with manufacturer-approved equipment.
6. Fittings shall be ductile iron mechanical joint and comply with the requirements set forth in the specifications for Ductile Iron Pipe and Fittings.

D. High Density Polyethylene (HDPE) Pipe

1. HDPE pipe sizes 4-inch (100 mm) and larger shall be a PE 4710/3408 high density, extra-high molecular weight polyethylene manufactured from first-quality high density polyethylene resin containing no additives, fillers, or extenders. The HDPE pipe shall have an ASTM D3350 cell classification of PE 445574C , shall meet the requirements of AWWA C906, and shall be sized based upon the ductile iron pipe size (DIPS), outside diameter (OD) sizing system.. The HDPE pipe shall be a minimum DR 11, pressure class 160 psi, and shall bear the NSF approval seal.
2. HDPE pipe shall be blue or marked with a permanent blue stripe to designate potable water.
3. Joints shall be made by butt fusing sections of pipe with manufacturer-approved equipment.
4. Fittings shall be ductile iron mechanical joint meeting the requirements of ANSI/AWWA C110/A21.10 and ANSI/AWWA C111/A21.11.
5. The pipe shall have fusion welded restrainer ring, follower gland, and a 12-inch (300 mm) stainless steel insert for the mechanical joint connection.
6. HDPE water mains shall be properly sized utilizing the inside diameter of the nominal pipe diameter. If during construction HDPE is substituted for other pipe materials, the Contractor shall verify that the inside diameter of the HDPE is the same or larger than the inside diameter of the pipe originally specified.

E. Steel Casing Pipe

1. All materials, design, fabrication, handling, and testing of steel casing pipe shall conform to the requirements of ASTM A139, AWWA C200 and AWWA Manual M11 "Steel Pipe – A Guide for Design and Installation."
2. Steel casing pipe shall be new, smooth-wall, carbon steel pipe conforming to ASTM Specification A139, Grade B with a minimum yield strength of 35,000 psi. Steel casings shall be used with the size, minimum thickness, length, and coating specified on the Plans or The Facility Owner's Standard Specifications.
3. Additional anti-corrosion measures, as specified by the manufacturer or indicated on the Plans, shall be provided at connectors, couplings, rollers, restraints, etc.
4. Unless specified otherwise in the Plans or The Facility Owner's Standard Specifications, casing pipe end seals shall consist of ⅛-inch (6 mm) thick flexible synthetic rubber boot with adjustable stainless steel banding straps. The annular space of the casing shall not be filled with concrete or grout.
5. Casing spacers shall consist of a stainless steel shell, PVC ribbed liner, and non-conducting separators to keep the carrier pipe from touching the casing pipe. Spacers shall be provided at a maximum of 10-foot intervals and within 2 feet (0.6 m) of the end of the casing pipe.

F. Pipe Detection Wire

1. Unless otherwise specified by the Plans or The Facility Owner's Standard Specifications, open cut installations of non-metallic pipe shall include minimum #12 gauge tracing wire. Pipe installed by directional drill shall include two (2) insulated 8 gauge tracer wire. Wire shall be solid copper insulated with HDPE installed along pipe, wrapped around service line stub outs and stubbed into valve boxes for locating purposes. Wire shall be properly spliced to provide continuous conductivity.

G. Warning Tape

1. Water mains shall be installed with polyethylene film warning tape manufactured for marking and identifying underground water utilities. Tape shall be a minimum of 2 inches (50 mm) wide and 4 mils thick, blue in color, with continuously printed letters reading "CAUTION BURIED WATER LINE BELOW".

H. Gate Valves

1. Gate valves 3 inches (80 mm) and larger shall be of the resilient seat type meeting the requirements of AWWA C509 or C515. Valves shall be iron body, bronze trimmed, with non-rising stems, and shall be fusion-bonded epoxy coated per ANSI/AWWA C550. Valves shall have a minimum design working pressure of 200 psi.
2. Valves shall be manually operated by nut and open counter-clockwise unless specified otherwise in the Plans or The Facility Owner's Standard Specifications.
3. The resilient seating arrangement shall provide zero leakage at the design working pressure when installed with line flow in either direction. All ferrous surfaces inside and outside shall have a fusion bonded epoxy coating. All valves shall be provided with O-ring seals. The design and machining of valves shall be such as to permit replacing the O-ring seals in the valves while in service without leakage.
4. All gate valves, when fully opened, shall have an unobstructed waterway diameter equal to or larger than the full nominal diameter of the valve.
5. In general, valves shall be designed for vertical installation. Valves installed in the horizontal position shall be provided with bevel gears, extended gear case, rollers, tracks, and scrapers.
6. Exposed or above-ground gate valves shall be outside screw and yoke (OS&Y) flanged joint type with an operating hand wheel. The face-to-face dimensions and drilling shall conform to ANSI B16.10 for Class 125 flanged joint end gate valves.
7. Valves shall include mechanical joints, bolts, glands, gaskets, and all other materials necessary to join to existing work.

8. Provide brass identification tag imprinted with "WATER", valve size, valve type, and direction and number of turns to open. Provide a ¼-inch (8 mm) hole in the brass tag and attach the tag to the end of the locate wire (twist wire around tag). Tag shall be 2-inch (50 mm) diameter and ⅛-inch (6 mm) thick brass with a ¼-inch (8 mm) hole.

I. Insertion Valve

1. Insertion type valves shall be resilient wedge gate valves designed to be installed into an existing pressurized potable water main without interruption of flow through the pipe and no reduction of line pressure.
   a. Valve shall be fusion-bonded epoxy coated in compliance with AWWA C550.
   b. The construction of the resilient wedge shall comply with AWWA C509 requirements.
   c. The resilient wedge shall be fully encapsulated with EPDM rubber and shall seat on the valve body and not the pipe. The resilient wedge shall be totally independent of the carrier pipe.
   d. Valve shall be restrained to the pipe.
   e. Valves shall be suitable for operating pressures up to 250 psi.

J. Butterfly Valves

1. Butterfly valves shall be of the tight-closing, rubber seated type, with rubber seat positively locking in place sealing against flow from either direction. Valves shall be hand operated with cast or ductile iron bodies. Valves shall conform to the requirements of AWWA C504, Class 150B, and shall be fusion-bonded epoxy coated per ANSI/AWWA C550.
2. Valves shall have a 2-inch (50 mm) square operating nut and shall be installed with extension stems to extend the operating nut in accordance with the project details. Valves shall open by turning the operating nut counter clockwise unless specified otherwise in the Plans or The Facility Owner's Standard Specifications.
3. Valve shafts shall be of 304 or 316 stainless steel.
4. Buried butterfly valve end connections shall be installed using restrained mechanical joints.
5. Flanged valves shall be fully faced and drilled in accordance with ANSI Standard B16.1, Class 125.
6. Provide brass identification tag imprinted with "WATER", valve size, valve type, and direction and number of turns to open. Provide a ¼-inch (8 mm) hole in the brass tag and attach the tag to the end of the locate wire (twist wire around tag). Tag shall be 2-inch (50 mm) diameter and ⅛-inch (6 mm) thick brass with a ¼-inch (8 mm) hole.

K. Ball Valves

1. Ball valves 2-inch (50 mm) and smaller shall be designed for a working pressure of not less than 175 psi. End connection shall be threaded. The body and all parts shall be made in accordance with AWWA C800 and ASTM B62 latest revision.

L. Tapping Sleeves and Valve Assembly

1. Tapping sleeves and valves sizes 4-inches (100 mm) and larger shall be stainless steel with wraparound gasket style, or ductile iron of the split-sleeve, mechanical joint type. Tapping sleeves shall be rated for a minimum 150 psi working pressure in accordance with ANSI/AWWA C110/A21.10.
2. When tapping an existing asbestos cement pipe, a stainless steel tapping sleeve which contains a full gasketed surface within the sleeve body shall be used due to variances in the manufactured outside diameter of the asbestos cement pipe.
3. Tapping sleeve shall have an outlet flange per ANSI B16.1, Class 125 standard.
4. The Contractor shall determine the outside diameter of the existing main before ordering the sleeve.
5. Tapping valves shall be mechanical joint outlet, non-rising stem, resilient seated gate valves meeting the applicable requirements of ANSI/AWWA C509/C515 and C550 with a minimum design working pressure of 200 psi.
6. Tapping valves shall be specifically designed for pressure tapping with sufficient seat opening to allow full diameter taps to be made.
7. Tapping valves shall be manufactured with an integral tapping flange having a raised lip design.

8. Tapping valves shall be furnished with a combination flange and mechanical joint for connecting the branch to the main.

M. Valve Boxes

1. All valves shall be equipped with valve boxes. The valve boxes shall be heavy, roadway type boxes. The valve box cover shall be marked “WATER VALVE” or “WATER”.
2. Valve box materials shall conform to the requirements and standards set forth in the The Facility Owner’s Standard Specifications, current published edition.
3. The valve boxes shall be adjustable up or down from the nominal required cover over the pipe. Extensions shall be provided as necessary. A precast concrete ring shall be placed around the valve box opening when outside of paved areas.
4. Valves shall be furnished with extension stems as necessary to bring the operating nut to within 24 inches (600 mm) minimum of the top of the valve box.

N. Service Connection Assemblies

1. Water service connections and plumbing should conform to the standards set forth in The Facility Owner’s Standard Specifications and relevant local and/or state plumbing codes or to the Standard Plumbing Code as applicable within the jurisdiction in which the system is located.
2. Service connection assemblies shall be provided for all new service line connections to existing meters. Existing service lines indicated for replacement shall be replaced with new materials from the water main to the existing or new water meter.
3. Service connection assemblies shall include:
   a. Service saddle
   b. Corporation stop
   c. Service line
   d. Fittings
   e. Curb stop
   f. Water meter box
   g. Water meter (separate Pay Item for new service connections)
   h. Backflow preventer (separate Pay Item for new service connections)

O. Service Saddles

1. Service saddles shall have ductile iron or bronze body with stainless steel epoxy coated double tie straps and nuts with pressure rating not less than that of the pipe to which it is to be connected.
2. Saddles shall have a rubber gasket cemented to the body, with compatible threading between the saddle and corporation stop. Saddles shall conform to ANSI/AWWA C800 standards.
3. The service saddle shall provide full support around the circumference of the pipe, providing a bearing area of sufficient width so that pipe will not distort when the saddle is tightened.

P. Water Service Pipe

1. Polyethylene (PE) pipe for water service lines shall conform to AWWA C901 and ASTM D-2737 and shall be 200 psi pipe, SDR 9 for copper tube size (CTS). Polyethylene extrusion compound from which the polyethylene pipe is extruded shall comply with applicable requirements for PE 3408 ultra-high molecular weight polyethylene plastic material as specified in AWWA C901.
2. Marking on the PE service pipe shall include the nominal pipe or tubing size, the type of plastic material, the standard thermoplastic pipe dimension ratio or the pressure rating in psi, the ASTM designation with which the pipe complies, and manufacturer's name or trade mark and code. It shall also include the NSF seal of approval for use with potable water.

3. Copper tubing for water service lines shall be seamless and shall conform to ANSI/AWWA C800 and ASTM B88, Type K soft, suitable for potable water use with a working pressure of 150 psi.
4. Water service line fittings shall be as indicated in The Facility Owner's Standard Specifications.

Q. Corporation and Curb Stops

1. Corporation stops, curb stops, and other appurtenances for plastic or copper service lines shall meet the requirements of ASTM B62 and AWWA C800.
2. Service line taps shall be equipped with corporation stops. Corporation stops in sizes 1-inch (25 mm) through 2-inch (50 mm) shall be manufactured from cast bronze with machined fitting surfaces. The corporation shall be pressure rated to no less than 150 psi.
3. Curb stops shall be ball valve type and made of bronze. Pipe connections shall be suitable for the type of service pipe used and shall be pressure rated for no less than 150 psi.

R. Water Meters

1. Water meters shall conform to the requirements and standards set forth in The Facility Owner's Standard Specifications.

S. Meter Boxes

1. Water meter boxes shall be high density reinforced plastic body with one piece cast iron lid with lettering "WATER METER" on cover unless otherwise indicated on the Plans. Recessed hole shall be included in lid, if required by Utility Owner for electronic reading capability. Provide box of size and height appropriate to installation of meter and accessories required. Meter and curb stop shall be fully encased by the meter box.

T. Concrete Vault

1. Concrete vaults shall conform to the requirements and standards set forth in The Facility Owner's Standard Specifications and standard details.

U. Air Release Valve Assembly

1. Air release, air/vacuum valves, and combination air valves shall be suitable for use with potable water systems and manufactured in compliance with ANSI/AWWA C512.
2. Air release valves shall have a small venting orifice to vent the accumulation of air and other gases in the line or system under pressure.
3. Air/vacuum valves shall have a large venting orifice to permit the release of air as the line is filling or relieve the vacuum as the line is draining or is under negative pressure.
4. Combination air valves shall have operating features of both the air/vacuum valve and air release valve.
5. Valves shall be suitable for pressures up to 250 psi.
6. Air release, air/vacuum valves, and combination air valves shall conform to the requirements set forth in The Facility Owner's Standard Specifications and standard details.

V. Fire Hydrant Assembly

1. Fire hydrants shall be the compressive, post style, dry barrel type, and shall conform to the requirements of ANSI/AWWA C502 and local code requirements. The valve opening shall not be less than 4½-inch (115 mm). All hydrants shall be complete including joint assemblies.
2. Hydrants shall be suitable for working pressure of 150 psi and shall be hydrostatically factory tested to 300 psi.
3. All working parts, including the seat ring, shall be removable through the top without excavating or disturbing the barrel of the hydrant.
4. Hydrants shall be constructed with a lubricant chamber which encloses the operating threads and which provides automatic lubrication of the threads and bearing surfaces each time the hydrant is operated. This assembly shall be

comprised of a top O-ring serving as a dirt and moisture barrier and a lower O-ring which will serve as a pressure seal.

5. Hydrants shall include two 2½-inch (65 mm) hose nozzles and one 4½-inch (115 mm) pumper connection with National Standard Fire Hose Threads unless specified otherwise in the Plans or The Facility Owner's Standard Specifications. Hydrant threads shall comply with the specifications of the local agency providing fire service.
6. Hydrant nozzle shall be constructed to face in any direction at any time by removing the safety flange bolts and revolving the head without digging or shutting off water.
7. Hydrants shall have pentagon operating nut measuring 1½-inch (40 mm) point to flat and shall open by turning counter-clockwise.
8. Hydrant shall have a safety-type vertical barrel with a minimum 3½-foot bury and be designed with safety flange and/or bolts to protect the barrel and stem from damage, eliminate flooding, and allow rapid replacement if hydrant is struck. All risers necessary for deeper bury applications shall be provided by the hydrant manufacturer.
9. Hydrants shall include positive, automatic drain valves which shall be fully closed when the main valve is open.
10. Bottom inlet of hydrant shall be provided with mechanical joint connection complete with accessories as specified and shall be 6-inch (150 mm) nominal diameter.
11. Fire hydrant shall be painted above ground with rust inhibiting enamel paint in accordance with The Facility Owners Standard Specifications.
12. Hydrant assemblies shall be restrained from the hydrant to the tee at the main.

W. Backflow Prevention Devices

1. Backflow prevention devices shall be installed where indicated on the Plans and shall meet all applicable AWWA, State, and local code/ordinance requirements.
2. Backflow preventer materials shall conform to the requirements and standards set forth in The Facility Owner's Standard Specifications.

X. Thrust Collars and Thrust Blocks

1. Concrete used for thrust collars or thrust blocks shall meet the "Class A" requirements for concrete listed in Section 500.
2. Thrust collars shall include welded-on collars attached by the pipe manufacturer or retainer glands. Concrete shall be poured continuous around the pipe and bear against undisturbed earth.
3. Reinforcing steel shall meet the requirements set forth in the Plans or The Facility Owner's Standard Specification].
4. Mechanical joint restraints shall be utilized in lieu of thrust blocks with the approval of Utility Owner.

Y. Manholes

1. Precast reinforced manholes shall be manufactured in accordance with ASTM C478 and shall have a minimum wall thickness of 5 inches (127 mm). All concrete shall have a minimum compressive strength of 4,000 psi when tested in accordance with ASTM C478.
2. Joints between precast sections shall be sealed by means of rubber O-ring gaskets or flexible butyl rubber sealant.
3. Non-shrinking grout or a flexible seal shall be used to seal the pipe penetrations and prevent water from entering the manhole.
4. Manhole rings and cover shall be per The Facility Owner's Standard Specifications and standard details.

670.2.02 Delivery, Storage, and Handling

A. Handle pipe, fittings, valves, and accessories carefully to prevent damage. Handle pipe by rolling on skids, forklift, or front end loader. Do not use material damaged in handling. Slings, hooks, or pipe tongs shall be padded and used in such a manner as to prevent damage to the exterior coatings or internal lining of the pipe. Do not use chains in handling pipe, fittings, or appurtenances.

B. To unload pipe, carefully lift and lower it into position using approved padded slings, hooks, or clamps. Furnish equipment and facilities for unloading, handling, distributing, and storing pipe, fittings, valves, and accessories. Make equipment available at all times for use in unloading. Do not roll, drop or dump materials. Any materials dropped or dumped shall be subject to rejection without additional justification.

C. Stored materials including salvaged materials shall be kept in suitable areas safe from damage. The interior of all pipe, fittings, and other appurtenances shall be kept free from dirt or foreign matter at all times. Store and support plastic pipe to prevent sagging and bending. Store plastic pipe and gaskets to prevent exposure to direct sunlight. Valves and hydrants shall be stored and protected from damage by freezing.

D. Pipe shall not be stacked higher than the limits recommended by the manufacturer. The bottom tier shall be kept off the ground on timbers, rails, or concrete.

670.3 Construction Requirements

670.3.01 Personnel

A. General Provisions 101 through 150.

B. Construction and installation of all water utilities shall be performed by a Contractor prequalified/registered with GDOT.

C. All work specified in this section, except for water system service line installation shall be performed by a Contractor with a valid Utility Contractor's license issued by the State of Georgia. Water service line installation shall be performed by either a Utility Contractor licensed in the State of Georgia or by a Master Plumber licensed in the State of Georgia.

670.3.02 Equipment

A. Ensure all equipment used is in conformance with the requirements and standards set forth in The Facility Owner's Standard Specifications, current published edition.

670.3.03 Preparation

General Provisions 101 through 150.

670.3.04 Fabrication

General Provisions 101 through 150.

670.3.05 Construction

A. Finding Existing Underground Utilities and Obstructions

1. Comply with Subsection 107.13 and Subsection 107.21.
2. According to the best information available to GDOT, all known water lines, sewer lines, gas lines, telephone conduits, drainage structures, etc. are shown on the Plans. However, to find such installations, use an electronic pipe and cable finder in locating existing installations or obstructions to the work.
3. When unforeseen conflicts require Plan changes, perform the work as altered according to Subsection 104.03 and Subsection 104.04.
4. Follow all Utility Owner customer notification requirements and obtain approval from the Utility Owner and GDOT Project Manager prior to disrupting any existing water services as required to install the water facilities shown on the Plans.

B. Jack and Bore

Comply with Section 615 for water main installations by jack and bore.

C. Directional Drilling

1. Install water mains and services by means of directional drilling at locations shown on the Plans or where approved by GDOT or Utility Owner. Provide submittals and follow all relevant procedures and requirements set forth in The Facility Owner's Standard Specifications.
2. The Contractor shall not initiate horizontal directional drilling until all submittals are received, reviewed, and accepted by GDOT and the Utility Owner, and all required permits are obtained.

3. The Contractor shall select drilling additives and fluid mixture proportions to ensure continuous circulation, bore stability, reduce drag on the pipe, and completely fill the annular space between the bore and the pipe to ensure stability and control settlement.
4. The Contractor shall submit contingency plans for remediation of potential problems that may be encountered during the drilling operations. The contingency plans shall address the observations that would lead to the discovery of the problem and the methods that would be used to mitigate the problem. Potential problems that shall be addressed include:
    a. Loss of returns/loss of circulation of drilling fluid.
    b. Encountering obstruction during pilot bore or reaming/pullback.
    c. Drill pipe or product pipe cannot be advanced.
    d. Deviations from design line and grade exceed allowable tolerances.
    e. Drill pipe or product pipe broken off in borehole.
    f. Product pipe collapse or excessive deformation occurs
    g. Utility strike.
    h. Hydrolock occurs or is suspected.
    i. Excessive ground settlement or heave of ground surface or existing utilities.
    j. Inadvertent returns / hydrofracture or surface spills resulting in drilling fluids entering water or reaching the surface.
5. Pipe damaged in directional drilling operations shall be removed and replaced at no additional expense to GDOT or the Utility Owner.
6. Voids developed or encountered during the installation operation shall be pressure grouted with a grout mix approved by GDOT.
7. Installation shall include a locatable conduit system, with identification markers on each side of GDOT right-of-way where applicable. Two (2) insulated 8 gauge solid copper tracers wire shall be attached to the leading end of the pipe pulling head and shall extend the full length of the installed pipe.
8. The location and alignment of the pilot drill progress shall be continuously monitored for compliance with the proposed installation alignment and for verification of the depth of the bore. Monitoring shall be accomplished by computer generated bore logs which map the bore path based on x, y, z coordinate information provided by the locating/tracking system. Readings or plots shall be obtained on every drill rod, and shall be provided to the Inspector on a daily basis. Deviations between the recorded and design bore path shall be calculated and reported on the daily log. If the deviations exceed tolerances specified elsewhere, such occurrences shall be reported immediately to GDOT. The Contractor shall undertake all necessary measures to correct deviations and return to design line and grade.
9. Upon completion of the directional drill the Contractor shall furnish GDOT and the Utility Owner an as-built drawing along with a report of the monitoring of the drilling fluids during the pilot hole and back reamed hole.
10. Drilling fluid pressures, flow rates, viscosity, and density shall be monitored and recorded by the Contractor. The pressures shall be monitored at the pump. These measurements shall be included in daily logs submitted to GDOT. The Contractor shall document modifications to the drilling fluids, by noting the types and quantities of drilling fluid additives and the dates and times when introduced. The reason for the addition of drilling fluid additives or other modifications shall be documented and reported.
11. Management and disposal of drilling fluids shall be the Contractor's responsibility. Excess drilling fluids shall be contained at the entry and exit points until recycled or removed from the site. All drilling fluids shall be disposed of in a manner acceptable to the appropriate local, state and federal regulations. The Contractor's work will be immediately suspended by GDOT whenever drilling fluids seep to the surface other than in the boring entrance or exit pit, or when a paved surface is displaced.

12. Surfaces damaged by the work shall be restored to their preconstruction conditions at no additional cost to GDOT or Utility Owner, and with no increase in contract time.
13. The following items shall be as shown on the Plans, unless otherwise approved in writing by GDOT:
    a. Entry / exit points
    b. Drill entry / exit angles
    c. Pilot bore path
        1) Radius of Curvature
        2) Entry / exit tolerances: Contractor shall be solely responsible for all work necessary to correct excessive deviations from line and grade, including re-drilling, redesigning connections, and acquiring additional easement, at no additional cost to GDOT or Utility Owner and without schedule extension.
14. The pilot bore shall be pre-reamed and reamed using equipment and methods submitted by the Contractor. The Contractor shall completely ream the bore to the final diameter prior to pullback.
15. Pullback: The pipe shall be installed by pulling it into the reamed bore path in a continuous operation, behind a final reaming tool selected by the Contractor. The pipe shall be isolated from excessive torsional and axial stresses by a swivel device with a pre-established breakaway tensile capacity that is lower than the allowable tensile strength of the pipe. The maximum pull (axial tension force) exerted on the pipelines shall be measured continuously and limited to the maximum allowed by the pipe manufacturer with an appropriate factor of safety so that the pipe or joints are not overstressed. The end of the pipe shall be closed during the pull back operation.
16. Pipelines shall be adequately supported during installation so as to prevent overstressing or buckling. The Contractor shall provide adequate support/rollers along the pipe layout area to support the required length of pipe for the bore. The pipe layout area shall be cleared of all large stones, construction debris, or other foreign objects that could damage the pipe during pullback. The Contractor shall monitor and inspect pipe rollers and method for suspending pipe at entry during the pullback operation to avoid damage to the pipe.
17. The end of the pipe shall be closed during the pull back operation.
18. Each length of pipe shall be inspected and cleaned as necessary to be free of debris immediately before joining.
19. The Contractor shall at all times handle the pipe in a manner that does not overstress or otherwise damage the pipe. Vertical and horizontal curves shall be limited so that wall stresses do not exceed 50% of yield stress for flexural bending of the pipe. If the pipe is buckled or otherwise damaged, the damaged section shall be removed and replaced by the Contractor at his expense. The Contractor shall take appropriate steps during pullback to ensure that the pipe and tracer wires will be installed without damage.
20. If necessary, the pipe shall have water added as it enters the bore to achieve neutral buoyancy and reduce pullback loads and to ensure that adequate internal pressure is maintained at all points to counter balance collapse pressures.
21. The Contractor shall cease pullback operations if the pipe is damaged and shall remove the pipe from the bore and repair the pipe using the manufacturer's recommended procedure or replace the damaged pipe before resuming installation.
22. Damage to the pipe resulting from manufacturer defects, installation, or grouting is the responsibility of the Contractor, including costs for replacement and labor and materials. To confirm no damage to the pipe, upon completion of pull back, the Contractor shall pull a sphere or pig through the entire length of the pipeline. The pig shall be one inch less in diameter than the internal diameter of the product pipe, capable of allowing water to pass through it, complete with a pulling cable on either side. If the pig or sphere cannot pass through the pipe, it shall be considered collapsed and damaged.
23. After the carrier pipe is completely pulled through the bore, a sufficient relaxation period as recommended by the pipe manufacturer shall be provided before the final pipe tie-in.
24. The Contractor shall conduct a final hydrostatic test of the installed pipeline. Final test shall be in accordance with these specifications. The Contractor shall repair any defects discovered during this test, and repeat until the pipe passes the test.

D. Excavating Trenches

1. The Contractor shall provide all necessary shoring and bracing materials as required to assure safe working conditions and to protect the excavations. The Contractor shall be required to fully comply with all applicable OSHA Excavation Safety Standards. No separate payment shall be made for any special procedure used in connection with the excavation.
2. Excavate trenches to the proper depth and width as follows:
   a. Trench to Grade: Excavated trench bottoms shall be firm, free from boulders, and conform to the established grade. Limit open trench excavation to a maximum of three 300 feet (90 m) ahead of completed backfill.
   b. Care shall be taken not to over excavate except where necessary to remove unstable material, irregularities, lumps, rock, and projections. Unnecessary over excavation shall be replaced at the Contractor's sole expense and in accordance with Subsection 670.3.05.
   c. Excavation carried below the established grade lines shown or established by the Utility Owner shall be backfilled according to Section 207 and Subsection 670.3.05. Use Class I or Class II Soils (defined in Section 810) and firmly compact the soil.
   d. Where the established grade of a trench is in rock, undercut the bottom of the trench by at least 6 inches (150 mm) beneath the pipe or conduit and the greater of 24 inches (600 mm) wider than the pipe/conduit (12 inches or 300 mm each side) or 42 inches (1050 mm) wide, then backfill and compact according to Subsection 670.3.05.
   e. Excavation in pavement and pavement patching shall be according to GA Standard No. 1401. Remove the pavement according to Section 444, except no separate payment shall be made for sawed joints.
   f. Dewatering: Remove all water from excavations and maintain the excavations free of water while construction therein is in progress. Provide dewatering equipment as necessary to conform to this requirement. Dewatering procedures must meet all state and local regulatory requirements.
3. Minimum Trench Depth
   a. Excavate trenches to provide at least 48 inches (1.2 m) cover depth directly above the pipe to the finished pavement surface, sidewalk, grass, etc. unless indicated otherwise on the Plans or by the Utility Owner and GDOT Project Manager. In order to avoid existing utilities, it may be necessary for the pipe to be laid shallower or deeper than the minimum cover specified. At such time the Contractor shall not be allowed extra compensation for additional excavation necessary for deeper installations.
   b. Side slopes of the trenches shall be as nearly vertical as practicable. Trenches in excess of 5 feet (1.5 m) deep shall either have the trench sides laid back to conform to OSHA requirements for trench safety, if such area is available within the limits of excavation, or, alternatively, trenches deeper than 5 feet (1.5 m) shall be excavated via trench box or shored and braced.
   c. If any part of a water main is to be placed in or under a new embankment, finish the embankment to at least a 2-foot plane above the outermost portion of the pipe barrel before excavating the trench.
4. Trench Width: Excavate trenches to uniform widths wide enough to allow proper installation of pipe, fittings, and other materials, a minimum of 6 inches (150 mm) and a maximum of 12 inches (300 mm) each side of the pipe or conduit.
5. Trench Bell Holes: Excavate bell holes deeply and widely enough to make joints and to allow the pipe barrel to rest firmly on the trench bottom.
6. Trench bottom: Excavate and shape trench bottoms to provide uniform bearing and support of pipes and conduits. Shape subgrade to provide continuous support of bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits/pipes. Remove projecting stones, tree roots, debris, and sharp objects along trench subgrade. Abrupt changes in grade of the trench bottom shall be avoided. Unless otherwise indicated in the Plans or The Facility Owner’s Standard Specifications, trenches for water mains shall be graded as much as possible to avoid high and low points that necessitate air release valves.

7. Excavations may be completed and refilled either by hand or by machinery. Hand tool excavation shall be conducted where necessary to protect existing utilities and structures.
8. In the event that unsuitable material is encountered at or below the excavation depth specified or shown on the Plans, the Utility Owner and GDOT Project Manager shall be notified. Such material shall be removed and replaced with suitable material in accordance with Section 205 by the written request of the GDOT Manager.

E. Connecting to Existing Mains

1. Connect to an existing main with the appropriate fittings according to the Plans or the Utility Owner and GDOT Project Manager. When making connections under pressure, (i.e. when normal water service must be maintained), furnish and use a tapping sleeve and valve assembly or line stop fittings as indicated. Coordinate with Utility Owner 72 hours in advance for water service interruptions and temporary shut-offs. Evening or weekend work may be required to complete direct connections and tie-ins. Connect to existing mains as follows:
   a. Before opening new pipeline trenches, locate the various points of connection to be made into existing pipelines. If necessary, uncover pipelines for the Utility Owner and GDOT Project Coordinators to prescribe the connections and fittings needed.
   b. Connect to existing pipelines only to meet operating requirements. Cut existing lines only after obtaining the Utility Owner and GDOT Project Manager' permission.
   c. Provide temporary line stops, associated fittings, and bypass pumping as indicated on the Plans and as necessary when cutting and plugging existing water mains to prevent service interruptions. Line stop and associated fittings shall be suitable for working pressures of 250 psi.
   d. Connections to existing asbestos cement pipe shall be installed as indicated on the Plans or in The Facility Owner's Standard Specifications. Cutting, removing, handling, and disposing of asbestos cement pipe shall be in accordance with requirements established by EPA, OSHA, GDOT, NIOSH, and the State of Georgia Environmental Protection Division, and any other applicable laws and ordinances.

F. Laying Water Mains and Appurtenances

1. Preparing and Handling Pipes
   a. Thoroughly clean the pipe and fittings before laying them. Keep them clean until accepted.
   b. Use suitable tools and equipment. Do not damage the pipe, especially the cement lining inside the pipe.
   c. Cut pipe in a manner to avoid damage to pipe or lining, leaving a smooth end at right angles to pipe axis. Smooth and bevel edges of cut pipe for push-on, gasket type joints.
   d. Bedding shall be provided as specified by the Utility Owner or pipe manufacturer for the type of conditions encountered. Bedding typically consists of granular soil free of lumps, clods, cobbles, and frozen materials, and shall be graded to a firm-but-yielding surface without abrupt changes in bearing value. Unstable soils and rock ledges shall be undercut from the bedding zone and replaced with suitable material.
   e. Bed pipe on coarse granular material in flat bottom trench with entire pipe barrel bearing uniformly on coarse granular material, except for an approximately 18-inch (450 mm) gap at pipe balance point for sling removal. Hand excavate and backfill as required to provide uniform and continuous bearing and support for the pipe. Do not support pipe on hubs or end bells. Consolidate coarse granular material under and around pipe up to pipe centerline by tamping.
   f. Join pipe with bells facing direction in which laying operation is progressing. Lay pipe upgrade wherever line grade exceeds 10%.
   g. Carefully examine pipe for cracks and other defects and do not lay defective pipe. If pipe or castings appear to be cracked, broken, or defective after laying, remove and replace those sections.
2. Alignment and Gradient

a. Pipe alignment and gradient shall conform to the Plans. Deflect pipe lines only where indicated on the Plans, within allowable horizontal and vertical deflection angles according to the manufacturer.

b. Water mains shall be laid at least 10 feet (3 m) horizontally from any existing or proposed sanitary sewer, storm sewer or sewer manhole. The distance shall be measured edge-to-edge. When local conditions prevent a horizontal separation of 10 feet (3 m), the water main may, on a case-by-case basis, be laid closer to a sewer provided the water main is laid in a separate trench or on an undisturbed earth shelf located on one side of the sewer at such an elevation that the bottom of the water main is at least 18 inches (450 mm) above the top of the sewer.

c. Maintain a vertical separation of at least 18 inches (450 mm) between the crown of sanitary sewers and the invert of existing or proposed water mains with the sewer located below the water main. Where a vertical separation of 18 inches (450 mm) cannot be provided, and the water main cannot be relocated to provide adequate clearance, center one full length of water main over the sewer so that both joints of the water main will be as far from the sewer as possible.

3. Special Requirements for Laying Water Mains
   a. Excavate, clean, lay, joint, and backfill progressively and uniformly according to these requirements:
      1) Never leave pipe in the trench overnight without completely jointing and capping.
      2) Do not leave completed pipeline exposed in the trench. Backfill and compact the trench as soon as possible after laying, jointing, and testing are complete.
      3) At the close of work each day and when laying pipe, close the exposed end of the pipeline in the trench with an approved wood or metal head or barrier.
      4) If necessary to cover the end of an incomplete pipeline with backfill, close the end of the pipe with a satisfactory cap or plug.

G. Installing Water Mains by Open Cut

1. Use the following flexible joints for connections inside the roadway shoulders or curbs and gutters:
   a. Mechanical Joints:
      1) When using mechanical joints, thoroughly wash bell sockets, spigots, gland, gasket, nuts, and bolts with soapy water before assembly. Keep these parts wet until the jointing operation is complete.
      2) Tighten nuts within the torque range recommended by the manufacturer. Check the tightening tolerance with a torque wrench.
      3) If effective sealing is not attained at the maximum recommended torque, disassemble, thoroughly clean, then reassemble the joint.
      4) Do not overstress bolts to compensate for improper installation or defective parts.
   b. Push-On Type Joints
      1) Use push-on joints made according to the manufacturer's recommendations.
      2) Install PVC pipe in accordance with AWWA C605.
      3) Install ductile iron pipe in accordance with AWWA C600.
2. Restraints for pipe joints and fittings shall be provided as specified and as shown on the Plans. Restraints shall be installed per manufacturer's recommendations.
3. Buried ductile iron pipe and fittings shall be polyethylene encased as specified and as indicated on the Plans. Polyethylene encasement tubing shall be secured with polyethylene tape and installed in accordance with ANSI/AWWA C105/A21.5.
4. Unless otherwise specified by The Facility Owner's Standard Specifications, provide pipe detection wire on all non-metallic pipe systems. Tape the tracer wire to the top center of the pipe at intervals which prevent wire displacement during backfilling operations. Stub tracer wire up 6 inches (150 mm) above finished grade at all valves

and fire hydrants. For splices, use direct bury kits. After backfilling is complete, test electrical continuity of each tracer wire segment and provide test results to Utility Owner and GDOT Project Manager.

5. Install continuous underground warning tape during backfilling of trench for underground water distribution piping. Install 12 inches (300 mm) below finished grade, or 6 inches (150 mm) below subgrade under pavements and walkways, and buried directly over piping.
6. Use pipe cutters when cutting pipe or special castings. Do not use a hammer, chisel, or a cutting torch.
7. Locations where water mains do not meet minimum depth of cover requirements shall include a steel casing or concrete encasement installed per The Facility Owner's Standard Specifications.
8. If HDPE pipe is to be installed where high groundwater table or water surrounding the pipe is expected, precautions shall be taken to provide neutral buoyancy to prevent floatation or a change in alignment.
9. Isolation Valves on Water Mains: Install and joint gate and butterfly valves as specified in Subsection 670.2.01 in accordance with AWWA C600. Include the valve box and valve marker where required.
10. Air release valves shall be located at high elevation points on the pipeline. Air release valves shall be installed at locations indicated in the Plans and in accordance with manufacturer's recommendations.
    a. Air release valves shall be installed in a shallow manhole or vault as indicated in the Plans and The Facility Owner's Standard Specifications. Automatic air relief valves shall not be used in areas where flooding of the manhole or vault may occur.
    b. An isolation valve shall be installed between the air release assembly and the connection to the main.
    c. The Contractor shall furnish and install at no additional cost to GDOT or Utility Owner all necessary fittings for the installation of air release valves at high points.
11. Pressure reducing/sustaining valves of the size and type indicated shall be installed as shown on the Plans per manufacturer's recommendations and The Facility Owner's Standard Specifications.
12. Fire Hydrants: Install and joint hydrants as specified in Subsection 670.2.01 and in accordance with AWWA C600. Include required vertical extension sections. Also, include pipe strap installation, restraints, crushed stone drain, and backfill according to the Plans and this Section. Spacing of fire hydrants shall be as indicated in The Facility Owner's Standard Specifications.
13. Concrete Thrust Collars and Thrust Blocks: If required, furnish materials and install thrust collars or concrete blocking according to Subsection 670.2.01. Form and pour concrete thrust collars or blocks in accordance with the Plans and The Facility Owner's Standard Specifications. Blocking shall be poured against undisturbed earth and all forms shall be removed before backfilling.
14. Backfilling
    a. Furnish equipment, labor, and when necessary material required for backfilling the pipe line trenches according to Section 207, and as follows:
        1) When testing for visual leaks in open trenches, do not backfill until testing is complete and leaks are eliminated.
        2) When retaining pavement adjacent to trenches, replace removed pavement with the same or better material when approved in accordance with the appropriate Section for the pavement type replaced.
        3) Place backfill on subgrades free of mud, frost, snow, or ice.
        4) Place and compact bedding course on trench bottoms and where indicated. Shape the bedding course to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits/pipes.
        5) Backfill shall include Class I or Class II Soils as defined in Section 810 or suitable material that conforms with The Facility Owner's Standard Specifications.
        6) Backfill shall be placed in two stages: first, side fill to a height of 12 inches (300 mm) above the top of pipe; second, overfill to former surface grade. Side fill shall consist of granular material laid in 6-inch (150

mm) layers each consolidated by mechanical tamping and controlled addition of moisture, to a density of 95% as determined by as determined by the Standard Proctor test (AASHTO T-99 Method D) or GDT 67. Overfill shall be layered and consolidated to match the entrenched material in cohesion and compaction. The top 12 inches (300 mm) shall be compacted to 100% of specified density. Consolidation by saturation or ponding shall not be permitted.

7) Soil Moisture Control: Uniformly moisten and aerate subgrade and each subsequent fill or backfill soil layer before compaction to within 2% of optimum moisture content. Remove and replace, or scarify and air dry, otherwise satisfactory soil material that exceeds optimum moisture content by 2% and is too wet to compact to specified dry unit weight.

8) Initial backfill shall be carefully compacted under pipe haunches and evenly up on both sides and along the full length of piping or conduit to avoid damage or displacement of piping or conduit. Place and compact fill and backfill of satisfactory soil to final subgrade elevation. Backfill voids with satisfactory soil while removing shoring and bracing and/or trench boxes.

9) After backfilling, maintain temporary surface restoration per GA Standard No. 1401 until permanent repaving is complete. No separate payment shall be made for replaced pavement.

15. Disinfection of Water Mains

a. New and existing pipelines and appurtenances shall be disinfected before placing into service. Disinfection can be conducted in conjunction with the pressure test.

b. Before the main is chlorinated, it shall be filled to eliminate air pockets and shall be flushed to remove particulates.

c. During disinfection of the water mains, an appropriate cross-connection control device, consistent with the degree of hazard, shall be provided for backflow protection of the active distribution system.

d. Chlorination: Sterilize using only potable water with calcium hypochlorite (HTH), 1% chlorine solution, or other products acceptable to the Utility Owner and GDOT Project Manager and Department of Public Health. Comply with AWWA C651 including Section 9 procedures on final connections to existing mains.

1) The chlorine solution used for disinfection of water mains shall have a free chlorine residual concentration not less than 25 mg/L or in accordance with The Facility Owner's Standard Specifications.

2) Add enough disinfectant to provide a chlorine residual of not less than 10 parts per million (ppm) in 24 hours or as required in The Facility Owner's Standard Specifications. All valves and hydrants shall be operated to ensure disinfection of the appurtenances.

3) At the end of 24 hours, check the chlorine residual. If it is less than 10 ppm, add additional chlorine and check the line again after 24 hours.

e. After the applicable retention period, the chlorinated water must not be disposed in a manner that will harm the environment. Neutralizing chemicals, such as Sulfur Dioxide, Sodium Bisulfite, Sodium Sulfite or Sodium Thiosulfate can be used to neutralize the chlorine residual remaining in the water to be wasted.

f. After sterilization, flush the line with potable water until the chlorine residual is equal to the existing system.

1) After final flushing and before the water main is placed into service, water samples shall be collected from the main and tested for microbiological quality in accordance with the Georgia Rules for Safe Drinking Water. Samples shall be taken in the presence of the Utility Owner and GDOT Project Manager.

2) When test results are not satisfactory, the pipeline shall be flushed and disinfected again as necessary without additional compensation until satisfactory results are obtained.

H. Laying Service Lines and Appurtenances

1. Except as modified in this Section, construct and install service connection assemblies and lines according to the Plans and the requirements for laying water mains. Install service lines at locations shown on the Plans or where designated by the Utility Owner and GDOT Project Manager.

2. Install new pipe from the water main to the final location of the meter or to points designated by the Utility Owner and GDOT Project Manager to connect with existing or future service lines on abutting property.
3. No water service connections shall be performed until the main is tested and disinfected. Water service lines shall be tested and disinfected prior to connection to the main.
4. If required, install water service line inside casing pipe according to the Plans or The Facility Owner's specification document.
5. At roads, paved drives, retaining walls, and other paved areas, install service tubing or casing pipe by pushing, pulling, or augering techniques. At all other locations, install service tubing by trenching and backfilling unless directed otherwise by GDOT.
6. Service line installation includes all connections using saddles, unions, valves, fittings, corporation stops, curb stops, casing, and any and all appurtenant work required to provide a complete water service connection.
7. Excavate for service lines as specified in Subsection 670.3.05 with the following exceptions:
   a. Ensure that trenches under pavements and across driveways are deep enough to provide at least 48 in (1.2 m) of cover, unless otherwise specified by The Facility Owner's Standard Specifications or directed by the Utility Owner and GDOT Project Manager.
   b. At other areas, trench depth and backfill cover may be adjusted at the discretion of the Utility Owner and GDOT Project Manager to provide at least 18 in (450 mm) of cover.
8. Backfill service lines as specified in Subsection 670.3.05.
9. All service lines, fittings, and appurtenances necessary for the water service connections shall be installed and backfilled in accordance with the manufacturer's recommendations and as per The Facility Owner's Standard Specifications and standard details.

I. Cutting and Capping Existing Water Mains

1. Disconnect by sawing or cutting and removing a segment of existing pipe where cutting and capping or plugging is shown on the Plans or directed by the Utility Owner or GDOT Project Manager. Provide a watertight pipe cap or plug and restraint mechanism to seal off existing mains indicated to remain in service. If water main is to be abandoned or removed and not specified to be grout filled, seal ends with a pipe cap or plug or with a masonry plug and minimum 6-inch (150 mm) cover of concrete on all sides around the end of the pipe.
2. The Contractor shall be responsible for uncovering and verifying the size and material of the existing main to be capped or plugged.
3. Abandoned manholes and water mains greater than 6-inch (150 mm) shall be filled with flowable fill per Section 600 at the locations indicated on the Plans. Air release valves and water service connections along the abandoned main shall be plugged prior to grouting. Prior to backfilling, the bottom of the manhole shall be broken up in such a manner that water will readily pass through. The top portion of the manhole structure shall be removed in order to establish a minimum of 3 feet cover from subgrade or finished grade when not under the pavement and filled with sand or suitable backfill.
4. Water mains shall be flushed prior to placement of flowable fill. Use concrete or grout pumps capable of continuous delivery at planned placement rate with sufficient pressure to overcome friction and fill the sewer main.

J. Relocating, Adjusting, and Removing

1. Fire Hydrant Assemblies
   a. Relocate, adjust to grade, or remove fire hydrant assemblies including valve and valve boxes according to the Plans or as designated by the Utility Owner and GDOT Project Manager.
   b. Protect items during removal and relocation. Replace lost or damaged Items at no expense to GDOT or the Utility Owner.
   c. Disconnect each joint before removing items from the trench.

d. Install relocated fire hydrant assemblies with tapping sleeve, and as specified herein for new fire hydrant assemblies.
e. Test for leakage, adjust, and retest until no leaks appear.
f. Backfill as specified in Subsection 670.3.05.
g. Consider valve boxes part of the valve assembly and remove them intact with the valve.

2. Water Valves and Boxes
   a. Adjust or remove water valves and valve boxes according to the Plans or as designated by the Utility Owner and GDOT Project Manager.
   b. Protect items during adjustment or removal. Replace lost or damaged Items at no expense to GDOT or the Utility Owner.
   c. Disconnect each joint before removing items from the trench.
   d. Test for leakage, adjust, and retest until no leaks appear.
   e. Backfill as specified in Subsection 670.3.05.
   f. Consider valve boxes part of the valve assembly and remove them intact with the valve.
3. Existing Water Meters and Boxes
   a. Relocate existing water meters and boxes according to the Plans or the Utility Owner and GDOT Project Manager.
   b. To relocate water meters, remove the existing meter, associated backflow preventer, and box and replace with a short section of pipe.
   c. Inspect along with the Utility Owner and GDOT Project Manager each meter and backflow preventer before removal to determine the condition of each.
   d. Unless specified otherwise in the Plans or The Facility Owner's Standard Specifications, new water meters and backflow preventers shall be furnished by the Contractor as necessary if these devices are deemed unsuitable for reuse. Contractor shall provide new water meter boxes if deemed unsuitable for reuse. The Contractor shall coordinate delivery of the water meters and backflow preventers to correspond to construction operations to minimize service interruptions.
   e. Relocation of water meters and boxes shall include without additional compensation, required pipe, unions and appurtenances, adapter fittings, necessary storage protection, and installation of meter, backflow preventer, meter box, and curb stop in the existing service line.
4. Existing Water Service Lines
   a. Water lines shall be adjusted to grade by excavating the existing lines, lowering or raising the lines, and backfilling according to the Plans or the Utility Owner and GDOT Project Manager.
   b. Furnish new materials or fittings required for the adjustment without additional compensation.
   c. Change connections at the main that result from this work.
   d. Repair leaks and damage caused by the operations at no expense to GDOT.
   e. When retaining a water meter where an existing service line is to be adjusted, adjust the existing meter and box to the proper grade without additional compensation.
5. Other Water Appurtenances
   a. Relocate, adjust to grade, or remove water main appurtenances including but not limited to air release valves, backflow preventers, pressure reducing/sustaining valves according to the Plans or as designated by the Utility Owner and GDOT Project Manager.
6. Utility related items identified on the Plans to be salvaged are the property of the Utility Owner. Contractor shall coordinate with Utility Owner on delivery of salvaged materials. Should the Utility Owner choose to not accept these materials they shall be removed from the project site as soon as practical.

K. Aerial Crossings

1. Support must be provided for all joints in pipes utilized for aerial crossings. The supports must be installed to prevent frost heave, overturning, and settlement. Precautions against freezing, such as insulation, shall be provided.

2. When the aerial crossing is accomplished by attachment to a bridge or drainage structure, the crossing shall meet all requirements of the agencies that own or have jurisdiction over such structures.
3. Aerial installations shall be installed to avoid or minimize stream blockage during normal high water events.
4. Underground valves shall be provided at both ends of the aerial crossing so that the section can be isolated for testing or repair. The valves shall be restrained, easily accessible, and not subject to flooding. An air release/vacuum relief valve shall be installed at all high points along the aerial crossing.
5. Appropriate guards shall be installed at both ends of the aerial crossing to prevent public access to the pipe.

670.3.06 Quality Acceptance

A. Materials Certification

For certain products, assemblies and materials, not on GDOT QPL List, and in lieu of normal sampling and testing procedures by the Contractor, the Utility Owner, and GDOT may accept from the Contractor the manufacturer's certification with respect to the product involved under the conditions set forth in the following paragraphs:

1. Material certifications shall be provided to GDOT, who shall distribute to the Utility Owner. Material certifications shall be approved by GDOT and the Utility Owner prior to construction. The certification shall state/specify that the named product conforms to these specifications and requirements of the Utility Owner and GDOT, and representative samples thereof have been sampled and tested as specified.
2. The certification shall either:
   a. Be accompanied by a certified copy of the test results, or
   b. Certify such test results are on file with the manufacturer and will be furnished to the Utility Owner and GDOT Project Coordinators upon demand.
3. The certification shall state/specify the name and address of the manufacturer and the testing agency and the date of tests; and sets forth the means of identification which shall permit field determination of the product delivered to the project as being the product covered by the certification.
4. Submit certification in triplicate with two copies of the covered product to the GDOT Project Coordinator, and one copy sent to GDOT's State Materials and Research Engineer at 15 Kennedy Drive, Forest Park, Georgia. The certification shall specify the project number and contract ID number. No certificate shall be required for Portland cement when furnished from a manufacturer approved by GDOT.
5. GDOT or the Utility Owner will not be responsible for any costs of certification or for any costs of the sampling and testing of products in connection therewith.
6. GDOT and the Utility Owner reserve the right to require samples and test products for compliance with pertinent requirements irrespective of prior certification of the products by the manufacturer. Any materials that fail to meet specification requirements will be rejected.
7. In accordance with the BUY AMERICA requirements of the Federal regulations (23 U.S.C. 313 and 23 CFR 635.410) all manufacturing processes for steel and iron products or predominantly of steel or iron (at least 90% steel or iron content) furnished for permanent incorporation into the work on this project shall occur in the United States. The only exception to this requirement is the production of pig iron and the processing, pelletizing and reduction of iron ore, which may occur in another country. Other than these exceptions, all melting, rolling, extruding, machining, bending, grinding, drilling, coating, etc. must occur in the United States.
   a. Products of steel include, but are not limited to, such products as structural steel piles, reinforcing steel, structural plate, steel culverts, guardrail steel supports for signs, signals and luminaires. Products of iron include, but are not limited to, such products as cast iron frames and grates and ductile iron pipe. Coatings include, but are not limited to, the applications of epoxy, galvanizing and paint. The coating material is not limited to this clause, only the application process.

b. Records to be provided by the Contractor for this certification shall include a signed mill test report and a signed certification by each supplier, distributor, fabricator, and manufacturer that has handled the steel or iron product affirming that every process, including the application of a coating, performed on the steel or iron product has been carried out in the United States of America, except as allowed by this Section. The lack of these certifications will be justification for rejection of the steel and/or iron product or nonpayment of the work.

c. The requirements of said law and regulations do not prevent the use of miscellaneous steel or iron components, subcomponents and hardware necessary to encase, assemble and construct the above products, manufactured products that are not predominantly steel or iron or a minimal use of foreign steel and iron materials if the cost of such materials used does not exceed one-tenth of one percent (0.1%) of the total contract price or $2,500.00, whichever is greater.

B. Flushing

1. Prior to testing, water mains shall be cleaned and flushed to remove all sand and foreign matter. Water used for filling and cleaning shall be from an approved potable water source. Sufficient flushing water shall be introduced into the mains to produce a scouring velocity of not less than 3.5 feet per second to resuspend the solids, and this rate of flow shall be continued until the discharge is clear and no evidence of silt or foreign matter is visible. The Contractor shall dispose of all water used for flushing without causing a nuisance or property damage.
2. In the event that the Contractor cannot obtain the flushing velocity, a poly-pig swab may be used to clean the pipeline. The Contractor shall submit pigging plan to the Utility Owner and GDOT for review. The plan shall include type of pig material, water flow rate, discharge points, poly-pig detector and retrieval options.

C. Hydrostatic Testing of Water Mains

1. When the Utility Owner and GDOT Project Manager approve a section of pipe for testing, the Contractor shall furnish the materials, equipment, and labor to conduct the pressure and leakage tests. Use a test pump, pressure gauge, and a means of measuring the water necessary to maintain the required pressure during the prescribed testing time. All pressure and leakage testing shall be done in the presence of the Utility Owner and GDOT Project Coordinators as a condition precedent to the approval and acceptance of the system. All pipes shall have been thoroughly flushed prior to testing. Simultaneous or separate pressure and leakage tests may be performed.
2. All water for testing and flushing shall be potable water provided by the Contractor, at no cost to the Utility Owner or GDOT, from an approved source. Flow velocity during line filling shall not exceed 2 feet (0.6 m) per second (fps).
3. Testing Requirements
   a. Water mains shall be tested in sections between valves, thereby, testing each valve for secure closure. Testing shall be done immediately after installation and backfilling has been completed.
   b. The mains shall be tested in accordance with the latest revision of AWWA C600 for ductile iron and C605 for PVC under an average hydrostatic pressure of the greater of 1.5 times the maximum working pressure or 150 psi as measured at the lowest point in the system for a minimum of 2 hours. Pressure shall be maintained until all sections under testing have been checked for evidence of leakage.
   c. While the system is being filled with water, air shall be carefully and completely exhausted. If permanent air vents are not located at all high points, the Contractor shall install corporation stops or fittings and valves at such points at no additional expense to the Utility so the air can be expelled as the pipe system is slowly filled.
   d. Makeup water shall be added, as required, to maintain the pressure within 5 psi of the test pressure. The quantity used shall be measured by pumping from a calibrated container. The maximum amount of makeup water allowed shall be determined by the following formula:

$$L = \frac{SD\ P^{0.5}}{148{,}000}$$

in which,

L = Allowable Leakage in gallons per hour

S = Length of pipe being tested in feet

D = Nominal pipe diameter in inches

P = Average test pressure during the test in psi gauge

e. Visible leaks shall be corrected regardless of total leakage shown by test. All pipe fittings and other materials found to be defective under test shall be removed and replaced. Lines which fail to meet test requirements shall be repaired and retested as necessary until test requirements are met. No additional compensation shall be made for repairs or retesting.

670.3.07 Contractor Warranty and Maintenance

General Provisions 101 through 150.

670.4 Measurement

Incidentals including excavation, rock removal, backfilling, disinfection, testing, temporary water connections, pavement removal, pavement replacement, and other incidentals required for the installation of water distribution items are not measured for separate payment and shall be included in the applicable Pay Items below. Water mains, service lines, and other associated Items of work in this Specification, complete, in place, and accepted, are measured for payment as follows:

A. Ductile Iron Water Mains

Ductile iron water mains shall be measured in linear feet (meters) for each size, thickness class, and type (restrained, non-restrained) installed. Measurement shall be horizontally above the centerline of the pipe and shall include the length of valves and fittings.

B. PVC Water Main

PVC water mains shall be measured in linear feet (meters) for each size and type (restrained, non-restrained) installed. Measurement shall be horizontally above the centerline of the pipe and shall include the length of valves and fittings.

C. Fusible PVC Water Main

Fusible PVC water mains shall be measured in linear feet (meters) for each size and type installed. Measurement shall be horizontally above the centerline of the pipe and shall include the length of valves and fittings.

D. HDPE Water Main

HDPE water mains shall be measured in linear feet (meters) for each size and type installed. Measurement shall be horizontally above the centerline of the pipe and shall include the length of valves and fittings.

E. Ductile Iron Fittings

Ductile iron fittings are considered subsidiary to the water line in which they are used and are not measured for separate payment. This Item includes, but is not limited to, wyes, tees, bends, crosses, sleeves, plugs and caps, and reducers.

F. Restrained Joints

Joint restraints used with the installation of PVC or ductile iron pipe are considered subsidiary to the water line in which they are used and are not measured for separate payment.

G. Gate Valves

Gate valves shall be measured on an individual basis for each size valve and box assembly acceptably installed.

H. Butterfly Valves

Butterfly valves shall be measured on an individual basis on the number of each size valve and box assembly acceptably installed.

I. Tapping Sleeve and Valve Assembly

Tapping sleeve and valve assemblies shall be measured on an individual basis on the number of each size tapping sleeve and valve assembly acceptably installed.

J. Double Strap Saddle

Double strap saddles shall be measured on an individual basis on the number of each size double strap saddle acceptably installed.

K. Fire Hydrant Assemblies

Fire hydrant assemblies shall be measured on an individual basis on the number of hydrants acceptably installed.

L. Water Service Lines

Service lines shall be measured in linear feet (meters) for each size of service pipe installed. Measurements are made from end to end and from center of lines to ends of branches and include tapping saddle, sleeve, valves, service connection assemblies, sleeves, adapters, and fittings.

M. Air Release Valve Assembly

Air release valve assemblies shall be measured on an individual basis on the number of each size and type of air release valve assembly acceptably installed.

N. Pressure Reducing / Sustaining Valve

Pressure reducing/sustaining valve shall be measured on an individual basis on the number of each pressure reducing/sustaining valves acceptably installed.

O. Blow-Off Assemblies

Blow-off assemblies shall be measured on an individual basis on the number of each blow-off assembly acceptably installed.

P. Backflow Prevention Assembly

Backflow prevention assemblies shall be measured on an individual basis on the number of each size and type backflow preventer acceptably installed.

Q. Water Meter

Water meters shall be measured on an individual basis on the number of each size meter acceptably installed.

R. Steel Casing

Steel casing pipe of the wall thickness and diameter specified shall be measured by the linear foot for each size and thickness of steel casing pipe installed. Measurement shall be horizontally above the centerline of the casing.

S. Relocation of Existing Fire Hydrant Assemblies, Air Release Valves, Water Meters, Water Backflow Preventers, Pressure Reducing or Sustaining Valves, Water Valves and Water Meter including Bypass and Vault

Relocation of existing fire hydrant assemblies, air release valves, water meters, backflow preventers, pressure reducing or sustaining valves, water valves, and water meter including bypass and vault shall be measured on an individual basis on the number of each acceptably relocated including relocation and final adjustment of boxes.

T. Adjustment of Existing Meter Boxes and Valve Boxes to Grade

Adjustment of existing meter boxes and valve boxes adjusted to grade in their original locations shall be measured on an individual basis on the number of each acceptably adjusted in accordance with Section 611.

U. Adjustment of Blow-Off Assembly

Adjustment of blow-off assembly to grade in their original locations shall be measured on an individual basis on the number of each acceptably adjusted.

V. Adjustment of Existing Fire Hydrant Assembly

Adjustment of existing fire hydrant assembly to grade in their original locations shall be measured on an individual basis on the number of each acceptably adjusted.

W. Adjustment of Existing Backflow Preventers

Adjustment of existing backflow preventers to grade in their original locations shall be measured on an individual basis on the number of each acceptably adjusted.

X. Removal of Water Meters, Fire Hydrant Assemblies, Backflow Preventers, Water Valves, and Air Release Valves

Removal of existing water meters and boxes, fire hydrants assemblies, backflow preventers, water valves, and air release valves, shall be measured on an individual basis on the number of each removed.

Y. Adjustment of Water Service Lines

Adjustment of water service lines shall be measured in linear feet (meters) of service line pipe lowered or raised, and shall include the length of valves, fittings, meters, boxes, and other appurtenances. Measurements are made from end to end of actual adjustments.

Z. Concrete Thrust Blocks

Concrete thrust blocking installed shall be measured as indicated in Section 500 per cubic yard of concrete acceptably installed. When Concrete Thrust Blocks is not shown as a pay item, include the cost of the work in the bid price for the appropriate item.

AA. Concrete Thrust Collars

Concrete thrust collars shall be measured on an individual basis on the number of each size thrust collar acceptably installed. When Concrete Thrust Collars is not shown as a pay item, include the cost of the work in the bid price for the appropriate item

BB. Cut and Plug Existing Water Main

Cutting and plugging of existing water mains shall be measured on an individual basis per each instance of cutting and plugging existing mains as shown on the Plans.

CC. Removal of Water Mains

Unless specified removal of water mains shall be removed in accordance with Section 210. If specified removal of water mains shall be measured per linear foot for each size pipe actually removed in accordance with Section 610. Measurement shall be horizontally above the centerline of the pipe removed and shall include the length of valves and fittings.

DD. Line Stop

Line stops shall be measured on an individual basis on the number of each size line stop actually installed.

EE. Flowable Fill

Flowable fill shall be measured as indicted in Section 600 per cubic yard of flowable fill acceptably installed. When flowable fill is not shown as a pay item, include the cost of the work in the bid price for the appropriate item.

FF. Insertion Valve

Insertion valves shall be measured on an individual basis on the number of each size valve acceptably installed.

GG. Three-Dimensional (3D) Survey

Three-dimensional survey shall be measured as one lump sum for a complete and accepted survey. This item will be included in the overall pipe measurement. No separate payment for this work.

670.4.01
Limits

General Provisions 101 through 150.

670.5
Payment

The Contract Unit Price for each Item, complete and accepted, shall include all costs incidental to the construction of the Item according to the Plans and as specified in this Section. The unit prices bid shall include due allowance for the salvage value of all materials removed from existing or temporary lines and not installed in the completed work. All such surplus items shall become the property of the Contractor unless such surplus items are specified to be salvaged. Payment for any Item listed below is full compensation for the Item or Items complete in place.

A. Ductile Iron Water Mains

Ductile iron mains shall be paid for at the unit price per linear foot for each diameter pipe installed and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheeting and shoring, installation of pipe, joints and jointing materials, anchoring, warning tape, polyethylene encasement, protection of existing utilities, connections to existing water mains, sampling taps, temporary blow-offs, flushing, cleaning, pigging, chlorine for disinfection, disinfection, backfilling, backfill materials, disposal of unsuitable backfill material, tamping, testing, densities, utility crossings, dewatering, trench stabilization, clean-up, restoration and all work and materials necessary to place the pipe into service.

B. PVC Water Main

PVC water mains shall be paid for at the unit price per linear foot for each diameter pipe installed and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheeting and shoring, installation of pipe, anchoring, tracer wire, warning tape, protection of existing utilities, connections to existing water mains, sampling taps, temporary blow-offs, flushing, cleaning, pigging, chlorine for disinfection, disinfection, backfilling, backfill materials, disposal of unsuitable backfill material, tamping, testing, densities, utility crossings, dewatering, trench stabilization, clean-up, restoration, and all work and materials necessary to place the pipe into service.

C. Fusible PVC Water Main

Fusible PVC water mains shall be paid for at the unit price per linear foot for each diameter pipe installed and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheeting and shoring, entry/exit pits, installation of pipe, joints and jointing materials, tracer wire, warning tape, mechanical joint adapters, protection of existing utilities, connections to existing water mains, fusion process materials and equipment, directional drilling materials and equipment, tracking system, assembling, welding, supporting, stringing, pulling, pigging, cleaning, sampling taps, temporary blow-offs, flushing, chlorine for disinfection, disinfection, backfilling, backfill materials, disposal of unsuitable backfill material, tamping, testing, densities, utility crossings, dewatering, trench stabilization, clean-up, and restoration, and all incidentals necessary to place the pipe into service except where such items are shown to be paid for under a separate Pay Item.

D. HDPE Water Main

HDPE water mains shall be paid for at the unit price per linear foot for each diameter pipe installed and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheeting and shoring, entry/exit pits, installation of pipe, tracer wire, warning tape, mechanical joint adapters, protection of existing utilities, connections to existing water mains, fusion process materials and equipment, directional drilling materials and equipment, tracking system, assembling, welding, supporting, stringing, pulling, pigging, cleaning, sampling taps, temporary blow-offs, flushing,

chlorine for disinfection, disinfection, backfilling, backfill materials, disposal of unsuitable backfill material, tamping, testing, densities, utility crossings, dewatering, trench stabilization, clean-up, and restoration, and all incidentals necessary to place the pipe into service except where such items are shown to be paid for under a separate Pay Item.

E. Ductile Iron Fittings

Ductile iron fittings are considered subsidiary to the water line in which they are used and are not measured for separate payment as outlined in the manufacturers' catalogues and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheeting and shoring, installation of fittings, joints and jointing materials, anchoring, warning tape, polyethylene encasement, protection of existing utilities, flushing, chlorine for disinfection, disinfection, backfilling, backfill materials, disposal of unsuitable backfill material, tamping, testing, densities, utility crossings, dewatering, trench stabilization, clean-up, restoration, all other related and necessary materials, work and equipment required to install a complete and operable pipeline fitting. This Item includes, but is not limited to, wyes, tees, bends, crosses, sleeves, plugs and caps, couplings, and reducers.

F. Restrained Joints

Restrained joints are considered subsidiary to the water line in which they are used and are not measured for separate payment as outlined in the manufacturers' catalogues and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheeting, shoring, installation of the restraint device, polyethylene encasement, protection of existing utilities, backfilling, backfill material, disposal of unsuitable backfill materials, tamping, testing, densities, utility crossings, dewatering, trench stabilization, clean-up, restoration, and all work and materials necessary to install the restrained joint.

G. Gate Valves

Gate valves shall be paid for at the unit price per each size gate valve and box assembly installed and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheeting and shoring, installation of the gate valves (including valve box), concrete pad or collar, valve identification disc, valve marker, valve tag, polyethylene encasement, protection of existing utilities, chlorine for disinfection, disinfection, backfilling, backfill material, disposal of unsuitable backfill materials, tamping, testing, densities, utility crossings, dewatering, trench stabilization, clean-up, restoration, and all work and materials necessary to install the gate valve and place it in service.

H. Butterfly Valves

Butterfly valves shall be paid for at the unit price per each size butterfly valve and box assembly installed and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheeting and shoring, installation of the butterfly valves including valve box, concrete pad or collar, valve identification disc, valve marker, valve tag, polyethylene encasement, protection of existing utilities, chlorine for disinfection, disinfection, backfilling, backfill material, disposal of unsuitable backfill materials, tamping, testing, densities, utility crossings, dewatering, trench stabilization, clean-up, restoration and all work and materials necessary to install the butterfly valve and place it in service.

I. Tapping Sleeve and Valve Assembly

Tapping sleeve and valves assemblies shall be paid for at the unit price per each size tapping sleeve and valve assembly installed and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheeting and shoring, installation of tapping sleeves and valve assemblies including valve box, concrete pad or collar, valve marker, valve tag, polyethylene encasement, protection of existing utilities, tapping the potable water main, chlorine for disinfection, disinfection, sampling points, backfilling, backfill material, disposal of unsuitable backfill materials, tamping, testing, densities, utility crossings, dewatering, trench stabilization, clean-up, restoration, and all work and necessary hardware to install the tapping sleeve assembly and valve and place it in service.

J. Tapping Sleeve

Tapping sleeves shall be paid for at the unit price per each size tapping sleeve installed and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheeting and shoring, installation of tapping sleeves, concrete pad

or collar, valve marker, valve tag, polyethylene encasement, protection of existing utilities, tapping the potable water main, chlorine for disinfection, disinfection, sampling points, backfilling, backfill material, disposal of unsuitable backfill materials, tamping, testing, densities, utility crossings, dewatering, trench stabilization, clean-up, restoration, and all work and necessary hardware to install the tapping sleeve and place it in service.

K. Double Strap Saddle

Double strap saddles shall be paid for at the unit price per each size double strap saddle installed and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheeting and shoring, installation of double strap saddles, concrete pad or collar, valve marker, valve tag, polyethylene encasement, protection of existing utilities, tapping the potable water main, chlorine for disinfection, disinfection, sampling points, backfilling, backfill material, disposal of unsuitable backfill materials, tamping, testing, densities utility crossings, dewatering, trench stabilization, clean-up, restoration, and all work and necessary hardware to install the double strap saddle.

L. Fire Hydrant Assembly

Fire hydrant assemblies shall be paid for at the unit price per each hydrant installed and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheeting and shoring, installation of the fire hydrant assemblies (all configurations), vertical extensions, tapping sleeve, valve, hydrant lead piping, joint connections, fittings, tees, restraints, crushed stone drain, polyethylene encasement, protection of existing utilities, valve box, concrete pad or collar, valve identification disc, valve marker, valve tag, chlorine for disinfection, disinfection, backfilling, backfill material, disposal of unsuitable backfill materials, tamping, testing, densities, utility crossings, dewatering, trench stabilization, clean-up, restoration, and all work and materials necessary to install the fire hydrant assembly and place it in service.

M. Water Service Line

Water service lines shall be paid for at the unit price per linear feet (meters) of the size service line installed and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheeting and shoring, installation of water service line, tracer wire, tapping saddle, sleeve, corporation stops, fittings, curb stops, casing pipe, plugging abandoned water service connection, removal of abandoned water service line, protection of existing utilities, locating and connection to existing or new water main, chlorine for disinfection, disinfection, sampling points, backfilling, backfill materials, disposal of unsuitable backfill material, tamping, testing, densities, utility crossings, dewatering, trench stabilization, clean-up, restoration, and all work and materials necessary to place the water service line into service. Water meter and box shall be paid for under a separate Pay Item.

N. Water Meter and Box

Water meters shall be paid for at the unit price per each size water meter installed and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheeting and shoring, installation of the meter and box, adjustment to final grade, fittings, protection of existing utilities, chlorine for disinfection, disinfection, backfilling, backfill materials, disposal of unsuitable backfill material, tamping, testing, densities, utility crossings, dewatering, trench stabilization, clean-up, restoration, and all work and materials necessary to place the meter into service except where such items are to be paid for under a separate Pay Item.

O. Backflow Prevention Assembly

Back flow prevention assemblies shall be paid for at the unit price per each type backflow preventer installed and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheeting and shoring, installation of the backflow preventer, concrete vault, adjustment to final grade, testing and certification, fittings, tees, restraints, protection of existing utilities, chlorine for disinfection, disinfection, backfilling, backfill materials, disposal of unsuitable backfill material, tamping, testing, densities, utility crossings, dewatering, trench stabilization, clean-up, restoration, and all work and materials necessary to place the meter into service except where such items are to be paid for under a separate Pay Item.

P. Air Release Valve Assembly

Air release valve assemblies shall be paid for at the unit price per each size and type of air release valve assembly installed and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheeting and shoring, installation of the air release assembly, tapping saddle, isolation valve, reducers, piping, restraints, fittings, tracer wire, concrete manhole or vault, ring and cover, protection of existing utilities, chlorine for disinfection, disinfection, backfilling, backfill materials, disposal of unsuitable backfill material, tamping, testing, densities, utility crossings, dewatering, trench stabilization, clean-up, restoration, and all work and materials necessary to place the air release assembly into service.

Q. Pressure Reducing / Sustaining Valve

Pressure reducing / sustaining valve shall be paid for at the unit price per each size and type of pressure reducing / sustaining valve installed and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheeting and shoring, installation of the pressure reducing / sustaining valve, reducers, piping, restraints, fittings, tracer wire, concrete manhole or vault, ring and cover, tracer wire, protection of existing utilities, chlorine for disinfection, disinfection, backfilling, backfill materials, disposal of unsuitable backfill material, tamping, testing, densities, utility crossings, dewatering, trench stabilization, clean-up, restoration, and all work and materials necessary to place the pressure reducing / sustaining valve into service.

R. Blow-Off Assembly

Blow-off assemblies shall be paid for at the unit price per each blow-off assembly installed and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheeting and shoring, installation of the blow-off assembly, valves, valve boxes, concrete pad or collar, piping, restraints, fittings, tracer wire, protection of existing utilities, chlorine for disinfection, disinfection, backfilling, backfill materials, disposal of unsuitable backfill material, tamping, testing, densities, utility crossings, dewatering, trench stabilization, clean-up, restoration, and all work and materials necessary to place the blow-off assembly into service.

S. Steel Casing

Steel casing pipe shall be paid for at the unit price per linear foot according to the diameter and thickness of the steel casing installed and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheeting and shoring, protection of existing utilities, steel casing pipe, skid, steel straps, coatings, casing spacers, end seals, boring and jacking pits, backfilling, backfill materials, disposal of unsuitable backfill material, tamping, testing, densities, dewatering, trench stabilization, clean-up, restoration, and all work and materials necessary to install the steel casing except where such items are shown to be paid for under a separate Item. The carrier pipe shall be paid from other applicable Pay Item.

T. Relocation of Existing Air Release Valve

Relocation of air release valves shall be paid for at the unit price per each air release valve assembly relocated and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheet and shoring, removal of existing air release valve assembly, installation at another location, piping, restraints, tracer wire, fittings, adjustment to final grade, polyethylene encasement, protection of existing utilities, chlorine for disinfection, disinfection backfilling, backfill material, disposal of unsuitable backfill materials, tamping, testing, densities, dewatering, trench stabilization, clean-up, restoration and all work necessary to locate, remove and relocate the air release valve except where such items are shown to be paid for under a separate Pay Item.

U. Relocation of Existing Fire Hydrant Assembly

Relocation of fire hydrants shall be paid for at the unit price per each hydrant assembly relocated and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheet and shoring, removal of existing fire hydrant assembly, installation at another location, vertical extensions, hydrant lead piping, joint connections, fittings, tees,

restraints, crushed stone drain, polyethylene encasement, valve box, concrete pad or collar, valve identification disc, valve marker, adjustment to final grade, protection of existing utilities, chlorine for disinfection, disinfection, backfilling, backfill material, disposal of unsuitable backfill materials, tamping, testing, densities, dewatering, trench stabilization, clean-up, restoration, and all work necessary to locate, remove and relocate the hydrant.

V. Relocation of Existing Backflow Prevention Devices

Relocation of backflow prevention devices shall be paid for at the unit price per each backflow preventer relocated and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheet and shoring, removal of existing backflow preventer, installation at another location, adjustment to final grade, testing and certification, fittings, tees, restraints, protection of existing utilities, chlorine for disinfection, disinfection, backfilling, backfill material, disposal of unsuitable backfill materials, tamping, testing, densities, dewatering, trench stabilization, clean-up, restoration, and all work necessary to locate, remove and relocate the backflow prevention device. The service line from the main to the relocated backflow preventer shall be paid for under a separate Pay Item.

W. Relocation of Water Meter and Box

Relocation of existing water meter and boxes shall be paid for at the unit price of each water meter and box relocated and shall cover the cost of all materials, transportation, labor, equipment, excavation, sheeting and shoring, removal of existing water meter and box, installation at another location, adjustment to final grade, protection of existing utilities, chlorine for disinfection, disinfection, backfilling, backfill material, disposal of unsuitable backfill materials, tamping, testing, densities, utility crossings, dewatering, trench stabilization, clean-up, restoration, and all work and materials necessary to relocate the water meter and box except where such items are shown to be paid for under a separate Item. The new service line from the main to the relocated meter shall be paid for under a separate Pay Item.

X. Relocation of Water Meter, including Bypass and Vault

Relocation of existing water meter including bypass and vault shall be paid for at the unit price of each water meter including bypass and vault relocated and shall cover the cost of all materials, transportation, labor, equipment, excavation, sheeting and shoring, removal of existing water meter, bypass and vault, installation at another location, adjustment to final grade, protection of existing utilities, chlorine for disinfection, disinfection, backfilling, backfill material, disposal of unsuitable backfill materials, tamping, testing, densities, utility crossings, dewatering, trench stabilization, clean-up, restoration, and all work and materials necessary to relocate the water meter including bypass and vault except where such items are shown to be paid for under a separate Item. The new service line from the main to the relocated meter, bypass and vault shall be paid for under a separate Pay Item.

Y. Relocation of Pressure Reducing/Sustaining Valve

Relocation of pressure reducing/sustaining valve shall be paid for at the unit price of each pressure reducing/sustaining valve relocated and shall cover the cost of all materials, transportation, labor, equipment, excavation, sheeting and shoring, removal of existing water meter and box, installation at another location, adjustment to final grade, protection of existing utilities, chlorine for disinfection, disinfection, backfilling, backfill material, disposal of unsuitable backfill materials, tamping, testing, densities, utility crossings, dewatering, trench stabilization, clean-up, restoration, and all work and materials necessary to relocate the water meter and box except where such items are shown to be paid for under a separate Item. The new service line from the main to the relocated pressure reducing/sustaining valve shall be paid for under a separate Pay Item.

Z. Relocation of Water Valve and Box

Relocation of existing water valves and boxes shall be paid for at the unit price of each water valve and box relocated and shall cover the cost of all materials, transportation, labor, equipment, excavation, sheeting and shoring, removal of existing water meter and box, installation at another location, adjustment to final grade, protection of existing utilities, chlorine for disinfection, disinfection, backfilling, backfill material, disposal of unsuitable backfill materials, tamping, testing, densities, utility crossings, dewatering, trench stabilization, clean-up, restoration, and all work and materials

necessary to relocate the water meter and box except where such items are shown to be paid for under a separate Item. The new service line from the main to the relocated valve shall be paid for under a separate Pay Item.

AA. Adjustment of Existing Water Service Line

Adjustment of existing water service lines shall be paid in accordance with Section 611, for at the unit price per linear foot of service line adjusted and shall cover the cost of all materials, transportation, labor, equipment, excavation, sheeting and shoring, adjustment of service line, tracer wire and splices, chlorine for disinfection, disinfection, backfilling, backfill material, disposal of unsuitable backfill materials, tamping, testing, densities, dewatering, trench stabilization, clean-up, restoration, and all work and materials necessary to adjust the service line except where such items are shown to be paid for under a separate Pay Item.

BB. Adjustment of Existing Water Valve Boxes to Grade

Adjustment of existing valve boxes shall be paid for in accordance with Section 611, at the unit price per each valve box adjusted to final grade and shall cover the cost of all materials, transportation, labor, equipment, excavation, sheeting and shoring, valve case and lid, trench adapter and operating nut extensions/reductions, tracer wire and splices, tracer wire riser and threaded plug, concrete pad, valve identification disc, backfilling, backfill material, disposal of unsuitable backfill materials, tamping, testing, densities, dewatering, trench stabilization, clean-up, restoration, and all work and materials necessary to adjust the valve box.

CC. Adjustment of Blow-off Assembly

Adjustment of existing blow-off assemblies shall be paid for at the unit price per each blow-off adjusted to final grade and shall cover the cost of all materials, transportation, labor, equipment, excavation, sheeting and shoring, valve case and lid, trench adapter and operating nut extensions/reductions, tracer wire and splices, tracer wire riser and threaded plug, piping, concrete pad or collar, valve identification disc, chlorine for disinfection, disinfection, backfilling, backfill material, disposal of unsuitable backfill materials, tamping, testing, densities, dewatering, trench stabilization, clean-up, restoration, and all work and materials necessary to adjust the blow-off assembly.

DD. Adjustment of Existing Water Meter Boxes to Grade

Adjustment of existing meter boxes shall be paid for at the unit price per each meter box adjusted to finished grade and shall cover the cost of all materials, transportation, labor, equipment, excavation, sheeting and shoring, adjustment of water meter box to final grade, protection of existing utilities, backfilling, backfill material, disposal of unsuitable backfill materials, tamping, testing, densities, dewatering, trench stabilization, clean-up, restoration, and all work and materials necessary to adjust the water meter box.

EE. Adjustment of Backflow Preventer

Adjustment of existing backflow preventers shall be paid for at the unit price per each backflow preventer adjusted to finished grade and shall cover the cost of all materials, transportation, labor, equipment, excavation, sheeting and shoring, adjustment of backflow preventer to final grade, adjustment of backflow preventer vault to final grade, protection of existing utilities, backfilling, backfill material, disposal of unsuitable backfill materials, tamping, testing, densities, dewatering, trench stabilization, clean-up, restoration, and all work and materials necessary to adjust the water meter box.

FF. Adjustment of Existing Fire Hydrant Assembly to Grade

Adjustment of existing fire hydrants shall be paid for , at the unit price per each hydrant adjusted to finished grade and shall cover the cost of all materials, transportation, labor, equipment, excavation, sheeting and shoring, adjustment of hydrant, protection of existing utilities, chlorine for disinfection, disinfection, backfilling, backfill material, disposal of unsuitable backfill materials, tamping, testing, densities, dewatering, trench stabilization, clean-up, restoration, and all work and materials necessary to adjust the hydrant.

GG. Removal of Water Valve and Box

Removal of water valves shall be paid for at the unit price per each valve removed and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheet and shoring, removal of existing water valve and box, protection of existing utilities, backfilling, backfill material, disposal of unsuitable backfill materials, tamping, testing, densities, dewatering, trench stabilization, clean-up, restoration, storage and delivery of removed valves identified to be salvaged, and all work necessary to remove the valve and box.

HH. Removal of Water Meter and Box

Removal of water meters shall be paid for at the unit price per each meter removed and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheet and shoring, removal of existing water meter and box, protection of existing utilities, backfilling, backfill material, disposal of unsuitable backfill materials, tamping, testing, densities, dewatering, trench stabilization, clean-up, restoration, storage and delivery of removed meters and boxes identified to be salvaged, and all work necessary to remove the meter.

II. Removal of Fire Hydrant Assembly

Removal of fire hydrant assemblies shall be paid for at the unit price per each hydrant assembly removed and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheet and shoring, removal of existing fire hydrant assembly, protection of existing utilities, backfilling, backfill material, disposal of unsuitable backfill materials, tamping, testing, densities, dewatering, trench stabilization, clean-up, restoration, storage and delivery of removed hydrants identified to be salvaged, and all work necessary to remove the hydrant.

JJ. Removal of Air Release Valve

Removal of air release valves shall be paid for at the unit price per each air release valve removed and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheeting and shoring, removal of air release valve assemblies, piping, concrete manholes or vaults, and fabricated enclosures, backfilling, backfill materials, disposal of unsuitable backfill materials, tamping, testing, densities, dewatering, trench stabilization, clean-up, restoration, storage and delivery of air release valves identified to be salvaged, and all work necessary to remove the air release valve.

KK. Removal of Backflow Prevention Devices

Removal of backflow prevention devices shall be paid for at the unit price per each backflow preventer removed and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheet and shoring, removal of existing backflow preventer and vault, protection of existing utilities, backfilling, backfill material, disposal of unsuitable backfill materials, tamping, testing, densities, dewatering, trench stabilization, clean-up, restoration, storage and delivery of removed backflow preventers identified to be salvaged, and all work necessary to remove the backflow preventers.

LL. Concrete Thrust Blocks

Concrete thrust blocks shall be paid for at the unit price per cubic yard of concrete complete in place as indicated in Section 500 and shall cover the cost of all materials, transportation, labor, equipment, excavation, sheeting and shoring, concrete, forming, reinforcement, protection of existing utilities, backfilling, backfill material, disposal of unsuitable backfill materials, tamping, testing, densities, dewatering, trench stabilization, clean-up, restoration, and all work and materials necessary to install a complete thrust block. When Concrete Thrust Blocks is not shown as a pay item, include the cost of the work in the bid price for the appropriate item

MM. Concrete Thrust Collars

Concrete thrust collars shall be paid for at the unit price per each size of thrust collar and shall cover the cost of all materials, transportation, labor, equipment, excavation, sheeting and shoring**,** reinforced concrete thrust collars, retainer glands, reinforcement, protection of existing utilities, backfilling, backfill material, disposal of unsuitable backfill materials, tamping, testing, densities, dewatering, trench stabilization, clean-up, restoration, and all work and materials necessary to install a complete thrust collar. When Concrete Thrust Collar is not shown as a pay item, include the cost of the work in the bid price for the appropriate item.

NN. Removal of Water Main

Removal of water mains shall be paid for at the unit price per linear foot of the size of water main to be removed in accordance with Section 610 and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheeting and shoring, protection of existing utilities, backfilling, backfill material, disposal of unsuitable backfill materials, tamping, testing, densities, dewatering, trench stabilization, clean-up, bypass pumping (as required), restoration, and all work and materials necessary to locate, remove and dispose of the pipe and associated appurtenances. Unless indicated for removal in a separate Pay Item, appurtenances to be removed shall include but not be limited to fittings, isolation valves, air release valves, valve boxes, blow-offs, steel casings, casing spacers, fire hydrant assemblies, water service lines, water meter boxes, thrust blocks, and concrete. All such surplus items shall become the property of the Contractor unless specified to be salvaged by the Utility Owner.

OO. Cut and Plug Existing Water Main

Cutting and plugging of existing water mains shall be paid for at the unit price per each installation and shall cover all materials, transportation, labor, equipment, excavation, sheeting and shoring, protection of existing utilities, backfilling, backfill material, disposal of unsuitable backfill materials, tamping, testing, densities, dewatering, trench stabilization, clean-up, restoration, and all work and materials necessary to cut and plug existing water mains, except where such items are shown to be paid for under a separate Pay Item.

PP. Line Stops

Line stops shall be paid for at the unit price per each size line stop installed and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheeting and shoring, installation of the line stop assemblies, valves, valve boxes, fittings, restraints, protection of existing utilities, chlorine for disinfection, disinfection, sampling points, backfilling, backfill material, disposal of unsuitable backfill materials, tamping, testing, densities, utility crossings, dewatering, trench stabilization, clean-up, restoration, and all work and materials necessary to install the gate valve and place it in service.

QQ. Flowable Fill

Flowable fill shall be paid for at the unit price per cubic yard of flowable fill complete in place as indicated in Section 600 and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheeting and shoring, flushing, plugging air release valves and service connections, installation of flowable fill, protection of existing utilities, backfilling, backfill material, disposal of unsuitable backfill materials, tamping, testing, densities, utility crossings, dewatering, trench stabilization, clean-up, restoration, and all work and materials necessary to install the gate valve and place it in service. When flowable fill is not shown as a pay item, include the cost of the work in the bid price for the appropriate item

RR. Insertion Valve

Insertion valves shall be paid for at the unit price per each size valve inserted and shall cover the cost for all materials, transportation, labor, equipment, excavation, sheeting and shoring, installation of the valve, valve boxes, fittings, restraints, concrete pad or collar, valve identification disc, valve marker, polyethylene encasement**,** protection of existing utilities, chlorine for disinfection, disinfection, sampling points, backfilling, backfill material, disposal of unsuitable backfill materials, tamping, testing, densities, dewatering, trench stabilization, clean-up, restoration, and all work and materials necessary to install the insertion valve and place it in service.

SS. Three-Dimensional (3D) Survey

Three-dimensional survey cost will be included in the overall pipe measurement and no separate payment for this work will be made, and it shall cover the costs for all non-destructive methods of locating installed utilities and associated electronic deliverables per Utility Owner specifications.

Payment will be made under:

Item No. 670	Water Main_____in (mm)	Per linear foot (meter)

Item No. 670	Gate Valve_____in (mm)	Per each
Item No. 670	Tapping Sleeve and Valve Assembly __ in (mm) x____in (mm)	Per each
Item No. 670	Fire Hydrant	Per each
Item No. 670	Water Service Line_____in (mm)	Per linear foot (meter)
Item No. 670	Relocate Existing Fire Hydrant	Per each
Item No. 670	Relocate Existing Air Release Valve Assembly	Per each
Item No. 670	Relocate Existing Water Valve including Box	Per each
Item No. 670	Relocate Existing Water Meter including Box	Per each
Item No. 670	Adjust Water Service Line to Grade	Per linear foot (meter)
Item No. 670	Remove Existing Water Meter including Box	Per each
Item No. 670	Steel casing_____in (mm)	Per linear foot (meter)
Item No. 670	Butterfly valve_____in (mm)	Per each
Item No. 670	Double strap saddle_____in (mm) x_____in (mm)	Per each
Item No. 670	Tapping Valve, ___in(mm)	Per each
Item No. 670	Air Release Valve Assembly_____in (mm)	Per each
Item No. 670	Water Meter, ___in	Per each
Item No. 670	Insertion Valve, ____in	Per each
Item No. 670	Line Stop_____in (mm)	Per each
Item No. 670	Cut and Plug Existing Water Main	Per each
Item No. 670	Blow-Off Assembly, Complete	Per each
Item No. 670	Pressure Reducing/Sustaining Valve	Per each
Item No. 670	Backflow Prevention Assembly	Per each
Item No. 670	Concrete Thrust Collar, _____in	Per each
Item No. 670	Relocate Backflow Prevention Assembly	Per each
Item No. 670	Relocate Existing Water Meter, including Bypass & Vault_____in (mm)	Per each
Item No. 670	Relocate Pressure Reducing/Sustaining Valve	Per each
Item No. 670	Adjust Blowoff Assembly	Per each
Item No. 670	Adjust Fire Hydrant Assembly	Per each
Item No. 670	Adjust Backflow Preventer	Per each
Item No. 670	Remove Existing Water Valve, including Box	Per each
Item No. 670	Remove Existing Fire Hydrant	Per each
Item No. 670	Remove Existing Backflow Preventer	Per each
Item No. 670	Remove Existing Air Release Valve	Per each

670.5.01 Adjustments

General Provisions 101 through 150.

Revised: September 19, 2011
First Used: December 16, 2011

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

SPECIAL PROVISION

PROJECT: FY 17 Bridge Replacement

COUNTY: Dodge, Dooly, Colquitt, Quitman, Echols, Thomas

PI NO: 0015524

Section 950 - Telecommunication Facilities

Add the following:

950.1 General Description

This Work consists of furnishing materials, labor, tools, equipment, and other items necessary for the installation, relocation, and adjustment of underground or direct buried telecommunication facilities in accordance with the Project Plans, Telecommunication Plans, and Specifications. This work includes the partial installation of telecommunication facilities on bridge structures when specified in the Plans. This Work does not include aerial telecommunication facilities and any splicing work, whether underground or aerial. This work does not include the placing or pulling of any wire or fiber optic cable through conduit, whether underground, aerial, or bridge attachment.

950.1.01 Definitions

General Provisions 101 through 150

Whenever the terms “Company” or “BellSouth” or “AT&T” are used in this Special Provision and its related documents, they mean American Telephone & Telegraph, its subsidiaries, successors and/or assigns.

Whenever the term “Plan” is used in this Special Provision and related documents, this includes the Telecommunication Plans.

The term “Contract Coordinator” means the Company’s authorized individual having the authority to give instructions pertaining to the Work. The Contract Coordinator has authority to approve or reject the Work and otherwise represent the Company. The Contract Coordinator is not authorized to revoke, alter, enlarge, relax, or release any requirements of the Contract, Plans, and Specifications nor will they act as an agent for the Contractor. Ensure Contract Coordinator has access to all of the Work for inspection and testing and is invited to participate in any project meeting where Telecommunication Facilities may be discussed.

950.1.02 Related References

General Provisions 101 through 150

A. Standard Specifications

Section 107 – Legal Regulations and Responsibility to the Public
Section 201 - Clearing and Grubbing
Section 205 - Roadway Excavation
Section 207 - Excavation and Backfill for Minor Structures
Section 208 - Embankments
Section 209 - Subgrade Construction
Section 310 - Graded Aggregate Construction
Section 400 - Hot Mix Asphaltic Concrete Construction
Section 441 - Miscellaneous Concrete

Section 444 – Sawed Joints in Existing Pavements
Section 500 - Concrete Structures
Section 810 – Roadway Materials
Section 852 - Miscellaneous Steel Materials
Section 861 - Piling and Round Timber
Section 863 - Preservative Treatment of Timber Products

B. Related Documents

1. National Electric Safety Code, ANSI – C2 (NESC)

   Obtain from the Institute of Electrical and Electronics Engineers at:
   http://www.ieee.org/portal/site/iportals/

2. AT&T telecommunication construction standards/details/specifications

   Obtain AT&T's telecommunication construction standards/details/specifications from:
   AT&T Georgia
   Mr. Mike Jobe, P.E.
   400 Chastain Center Blvd
   Suite 121
   Kennesaw, Georgia 30144
   Phone: 770-429-7916

If there is a conflict or discrepancy between the Specifications and the telecommunication standards/details/specifications or the National Electric Safety Code, perform the Work in accordance with the Company's telecommunication construction standards/details/specifications and National Electric Safety Code, current editions. If any of the Company's telecommunication construction standards/details/specifications and National Electric Safety Codes are revised after Notice to Contractors date, perform the Work specified in the Plans and Specifications using the revised telecommunication construction standards/details/specifications and National Electric Safety Code. If revisions to the Company's telecommunication construction standards/details/specifications and National Electric Safety Codes are dated on or after the letting date shown on the bid proposal, notify the Engineer in writing of such revisions.

950.1.03 Submittals

General Provisions 101 through 150

A. Completion Letter and As-Built Documentation

Provide no later than 30 days after the completion of the work a Completion Letter and As-Built Documentation to both the Engineer and the Contract Coordinator consisting of the following information.

1. Include in the Completion Letter the date all telecommunication pay items are completed and ready to be turned over to the Company. Also, include a detailed estimate of quantities in place and explanation of any deviations or overruns.

2. Provide As-Built Documentation of the in-place and accepted telecommunication facilities. Documentation shall consist of two sets of full size plans and electronic files in the form of a Bentley MicroStation file using the same version and format in which the Telecommunication Plans were created.

950.2 Materials

A. Underground Telecommunication Facilities

Provide any materials required for the construction of proposed telecommunication facilities shown on the Plans but not furnished by the Company. Furnish for the completion of the Work all materials, tools, equipment, and labor in conformance with the requirements and standards set forth in the telecommunication construction standards/details/specifications, current edition. When required by the Plans, transfer all existing materials supplied by

the Company to the required locations as specified. Replace in-kind any existing material damaged or lost during transfer.

950.2.01 Delivery, Storage, and Handling

General Provisions 101 through 150

Coordinate with the Contract Coordinator to ensure all required materials for the Work are from sources approved by AT&T. Follow any delivery, storage and handling procedures set forth in the telecommunication construction standards/details/specifications, current edition.

950.3 Construction Requirements

950.3.01 Personnel

General Provisions 101 through 150

Contractors or Subcontractors performing work consisting of the construction and installation of telecommunication facilities must be prequalified with the Company and registered with the Department. Contact the Company representative listed below to obtain a list of prequalified telecommunication contractors. Telecommunication contractors or subcontractors not prequalified with the Company will not be approved to perform the telecommunication work.

AT&T Georgia
Mr. Mike Jobe, P.E.
400 Chastain Center Blvd
Suite 121
Kennesaw, Georgia 30144
Phone: 770-429-7916

950.3.02 Equipment

General Provisions 101 through 150

Ensure all equipment used is in conformance with the requirements and standards set forth in the Company's telecommunication construction standards/details/specifications, current edition. Obtain prior approval from the Engineer before starting Work on specialty items such as boring equipment and others of similar complexity.

950.3.03 Preparation

General Provisions 101 through 150

Follow all preparation procedures set forth in the Company's telecommunication construction standards/details/specifications, current edition, and the Specifications. Perform necessary preliminary engineering, field engineering, survey, and construction staking and layout for the installation of the specified underground telecommunication facilities.

950.3.04 Fabrication

General Provisions 101 through 150

Ensure fabrication procedures and requirements conform to those set forth in the Company's telecommunication construction standards/details/specifications, current edition. Submit shop drawings to the Engineer and Contract Coordinator for any items requiring fabrication. Obtain approval from the Engineer and Contract Coordinator prior to ordering materials.

950.3.05 Construction

Review the Plans to ensure all items required for the Work are included in the price bid for each telecommunication bid item. Identify any material required to complete the Work not shown in the Plans. Communicate with the Contract Coordinator to ensure AT&T is given 30 (thirty) calendar days notice for AT&T's portion of the Work.

A. Permission to Enter Private Property

Comply with Section 107—Legal Regulations and Responsibility to the Public.

Through an agreement between the Department and the Company; the Contractor is given the permission to enter upon private properties found outside the project's construction limits. This permission is granted for the sole purpose of activities relating to the installation and/or adjustments of telecommunication facilities only and is limited to the area of existing easements obtained by the Company. Such permission to enter upon private properties is temporary and such rights commence upon project award and automatically expire upon completion and project final acceptance by the Department.

In all cases where it is necessary to enter upon private property; take sole responsibility for and minimize any disruptions to personal property in the commencement of such work thereof. Additionally, ensure compliance to the following restrictions and requirements:

1. Limit all Work to the installation, relocation, or replacement of telecommunication facilities; and, Work necessary to restore each private property in compliance with subsection 950.3.05.A.6.

2. Notify the Engineer, private property owner, and resident(s) 72 hours before commencing Work on said private property.

3. Ensure only vehicles and equipment required for the Work are allowed on any private property.

4. Do not store any materials, vehicles, or equipment on any private property longer than the duration required to perform the Work.

5. Do not use any private property as an on-site detour or vehicle path.

6. Immediately following any construction located on private property, restore all areas of the same parcel to a condition substantially the same as existed immediately prior to any such disturbances, including without limitation, any and all necessary repairs, and replacement of grassing, landscaping and pavement which may be removed and excavated by the Contractor. Ensure all necessary repairs are made to restore the original contours and re-establish the ground cover to control erosion.

B. Customer Notification Requirements

Follow all customer notification requirements as provided by the Company and obtain approval from the Contract Coordinator prior to disrupting existing services required for the installation of the telecommunication facilities shown on the Plans.

C. Installation or Adjustment of Telecommunication Facilities

Follow all relevant procedures set forth in the Company's telecommunication construction standards/details/specifications, current edition. Construct all proposed underground telecommunication facilities in accordance with the requirements set forth in the Plans and as instructed by the Contract Coordinator.

D. Excavating Trenches

Excavate trenches to the proper grade, depth, and width as follows:

1. Trench to Grade

   Ensure excavated trench bottoms are firm, free from boulders, and conform to the established grade.

   a. Backfill, according to Section 207, any part of the trench excavated below the established grade. Use Class I or Class II Soils (Section 810), and firmly compact the soil.

   b. Where the established grade of a trench is in rock, undercut the bottom of the trench by at least 6 in (150 mm), then backfill and compact according to Section 207.

c. Conduct blasting operations according to Subsection 107.12.

d. Excavate trenches under pavement to grade as follows:

1) To remove the pavement, cut it at least 12 in (300 mm) wider than each trench edge to provide solid bearing for the pavement edges when replaced. Remove the pavement according to Section 444, except no separate payment will be made for sawed joints.

2) Directional bore under existing sidewalks, curbs, gutters, and pavements according to subsection 950.3.05.E.

2. Minimum Trench Depth

Excavate trenches to provide at least 48 in (1.2 m) cover depth from the Work to the finished pavement surface, sidewalk, grass plot, etc. unless indicated otherwise on the Plans or by the Engineer.

If any part of a telecommunication facility is to be placed in or under a new embankment, finish the embankment to at least a 2 ft (600 mm) plane above the top of the proposed facility before excavating the trench.

3. Trench Width

Excavate trenches wide enough to allow proper installation of the Work.

E. Directional Boring

This Work consists of installing various sizes of bores by directional boring through whatever materials may be encountered.

Furnish, for the Engineer's approval, a plan showing the proposed methods for the installation of horizontal directional bores. The Engineer will review the proposed installation plan within 10 working days of receipt by the Department. No directional boring Work will be allowed until the Contractor's submitted plan is approved by the Engineer. Include the following detail in the plan, as a minimum:

1. List of projects completed by the company performing the boring operation, environment of installation (urban work, river crossing, freeway), diameter of product installation and length of bores. Include the name, address and phone number of an owner's representative with knowledge of the performance of the Work. Provide at least five previously completed projects of similar scope as the boring Work included in this contract.

2. List of the Contractor's key personnel with a resume of boring experience. The Department will be the sole judge of the qualifications of the foreman and the drill operators.

3. Location of all proposed boring entry and exit pits.

4. Proposed alignment of bore both horizontal and vertical. For the proposed alignment, maintain a minimum clearance of 18 inches (450 mm) or 2 times the diameter of the final product installation, whichever is greater, at any obstruction. Do not perform boring in select backfill areas such as at mechanically stabilized wall locations.

5. Proposed diameter of bore. This diameter is the diameter of the final product installation.

6. Proposed diameter of pilot borehole.

7. Proposed diameter of back reamer. Do not allow the diameter of the back reamer to exceed 1.5 times the diameter of the final product installation.

8. Proposed depth of cover. Ensure the depth of cover will be equal to or greater than 10 times the diameter of the final product installation. Under paved shoulders, maintain a minimum depth of cover of 4 feet (1.22 meters). Under travel lanes or outside of paved shoulders, maintain a minimum depth of cover of 8 feet (2.44 meters).

9. Evaluation of soil conditions to be encountered. A complete soil survey is not required. As a minimum, excavate the entrance and exit pits for the proposed bore and determine the nature of the material likely to be encountered. Base the drilling fluid composition on the evaluation of the materials encountered in the bore pit excavation.

10. Proposed composition of drilling fluid.

11. Proposed drilling fluid pressure and flow rates.

12. Proposed drilling fluid management plan.

13. Proposed pull back rate.

14. Type of tracking facilities.

Excavate suitable pits or trenches for the boring operation and for placing end joints or termination connectors of conduit when required. Securely sheet and brace pits or trenches where necessary to prevent caving. Where directional boring is required under railroads, highways, streets or other facilities, perform construction in a manner that will not interfere with the operation of the facility, and not weaken the roadbed or structure. Do not disturb or excavate any roadway pavement, subgrade, roadbed, paved shoulder, or unpaved median as part of the boring or conduit placing operation for any reason without written authorization by the Engineer.

In the above areas, unless otherwise authorized in writing by the Engineer, abandon in place any broken or damaged boring rod/stem, boring head (including transmitter/transponder locating heads and cutter heads), couplings (including back reaming, swivel or connector couplings), or any other material that cannot be retrieved as part of the pullback operation. Abandoned material will become the property of the Department. No additional payment for abandoned material will be made.

Continuously monitor the location and alignment of the pilot drill progress to insure compliance with the proposed installation alignment and to verify depth of the bore. Accomplish monitoring by manual plotting based on location and depth readings provided by the locating/tracking facilities or by computer generated bore logs which map the bore path based on information provided by the locating/tracking facilities. Obtain readings or plots on every drill rod and provide to the Engineer on a daily basis for as-built plans.

Monitor drilling fluids such as the pumping rate, pressures, viscosity and density during the pilot bore, back reaming, and/or conduit installation stages to ensure adequate removal of soil cuttings and to ensure the stability of the borehole is maintained. Do not allow drilling fluid pressures to exceed that which can be supported by the overburden (soil) pressure to prevent heaving or a hydraulic fracture of the soils. Contain excessive drilling fluids at the entry and exit points until recycled or removed from the site. Dispose of all drilling fluids in a manner acceptable to the appropriate local, state and federal regulations. The Work will be immediately suspended whenever drilling fluids seep to the surface other than in the boring entrance or exit pit. Propose a method to prevent further seepage and remove and dispose of any drilling fluid on the surface prior to resuming the boring operation.

To minimize heaving during pullback, determine the pullback rate to maximize the removal of soil cuttings and minimize compaction of the ground surrounding the borehole. Ensure the pullback rate minimizes over cutting of the borehole during the back reaming operation to ensure excessive voids are not created resulting in post installation settlement. Restore any surfaces damaged by the Work to their preconstruction conditions. All costs associated with the restoration are to be borne by the Contractor.

The distance the excavation extends beyond the end of the bore will depend upon the character of the excavated material. Do not exceed 2 feet (0.61 meters) in any case. If the character of the material being excavated makes it desirable, decrease the distance on instructions from the Engineer. Once the directional boring has commenced, insofar as practical, continue the operation without interruption. After the boring has been completed, immediately backfill the pits or trenches excavated to facilitate boring operations.

Proceed with the Work from a surface staging area provided for the boring equipment and workers. Obtain approval from the Engineer on the proposed location of the staging area. Bore the holes mechanically. Place excavated material near the top of the working pit and dispose of as required. Water or other fluids in connection with the boring operation will be permitted only to the extent necessary to lubricate cutting. Do not perform jetting.

Excavation will not be measured for payment.

In unconsolidated soil formations, a gel-forming colloidal drilling fluid consisting of at least 10% high grade carefully processed bentonite may be used to consolidate excavated material, seal the walls of the hole, and furnish lubrication for subsequent removal of material and immediate back reaming/installation of conduit. Continuously monitor and maintain the flow pressure on the drilling fluid at the minimal pressure required to place the fluid. In normal circumstances, do not exceed a flow pressure of 200 psi (1379 k Pa). At any time during boring operations, do not exceed a flow pressure of 500 psi (3448 k Pa). Remove all drilling fluid spoils from both ends of the bore and properly dispose of material at a properly permitted location.

Limit allowable variation from line and grade to a maximum of 2 percent.

Pressure grout any voids that develop during the installation operation and are determined by the Engineer to be detrimental to the Work with an approved mix.

Directional boring operations inherently include the risk of encountering below grade obstructions that begin to alter the bore direction. Should an obstruction be encountered, notify the Engineer immediately. Attempt to restore the bore alignment by performing a minimum of three attempts at each encountered obstruction with different corrective measures. Boring deeper or shallower (if minimum conduit depth can be maintained), moving the boring head to the right or left of the obstruction, or attempting to bore through the obstruction (if other than solid rock) are acceptable corrective measures to restore bore alignment. The Engineer may authorize a relocation of the bore if a suitable bore alignment cannot be restored.

F. Removals

Follow all relevant procedures set forth in the Telecommunication Plans or Company's telecommunication construction standards/details/specifications, current edition. Remove all existing telecommunication facilities in accordance with the requirements set forth in the Plans and as instructed by the Contract Coordinator. Cutting of poles specified for removal or abandonment will not be permitted. Remove pole(s) and backfill void in accordance with Section 207. Backfill any voids remaining from the removal of underground facilities in accordance with Section 207. Replace, in-kind (material and depth), any voids remaining in roadway structures.

951.3.06 Quality Acceptance

A. Testing

Follow all relevant procedures set forth in the Telecommunication Plans or Company's telecommunication construction standards/details/specifications, current edition. Ensure Contract Coordinator is present at all inspection and testing. Correct all deficiencies in the Work indicated by testing, inspecting, and as directed by the Engineer or Contract Coordinator.

B. Semi-Final Utility Inspection

When the contractor has finished the Telecommunication System Work, the Contractor may, by written notice, request that a semi-final utility inspection be made. The Engineer, along with the Contract Coordinator, will determine if the Telecommunication System Work is ready for semi-final utility inspection. The Engineer, in agreement with the Contract Coordinator, will have the final decision on when the Telecommunication System Work is complete and thereby ready for semi-final utility inspection. If all the Telecommunication System Work provided for and contemplated by the Contract is found to be complete to the Engineer's satisfaction and all documents required in connection with the Telecommunication System Work has been submitted and accepted then, the Contractor may request transfer of the completed Telecommunication System Work to the Owner.

Once the new facilities are in service and accepted by the Owner, provide written correspondence notifying the Engineer and Contract Coordinator that utility location services will be the responsibility of said Owner.

Such partial acceptance shall in no way relieve the Contractor of the responsibility for satisfactory completion of the Contract, or for failure of any portion of the Telecommunication System Work prior to Final Acceptance of the Project.

950.3.07 Contractor Warranty and Maintenance

General Provisions 101 through 150

950.4 Measurement

Installation and Adjustment of Telecommunication Facilities, and other items of Work in this Specification, in place, operational, and accepted, are measured for payment as follows:

A. Installation of Telecommunication Facilities

Installation is measured in linear feet for each type, size, and capacity of facility installed and accepted. The facility is measured along the center following the existing ground line or bridge deck grade from structure to structure through all equipment and hardware and includes the installation of any materials required by the Plans and Company's telecommunication construction standards/details/specifications, current edition. Measurement will begin and end at existing pole structures, vault structures, splice point, or termination cabinet where the newly installed Work connects to the existing facility. All measurements will begin and terminate at the intersection of the structure and grade. Measurement for the portions of buried facilities that transition up pole structures to tie to the overhead facilities will not be made. There will be no compensation for replacement of damaged or lost materials. There will be no separate measurement and payment for the transfer of existing materials to new location. Include the costs of transferring materials in the costs for the installation of Telecommunication Facilities. Measurement of unsuccessful boring attempts will not be made. Successful directional bores are measured in linear feet for each size and capacity of bored facility installed and accepted.

Obtain measurements with electronic survey equipment and provide Engineer with printout of Installed Telecommunication Facilities indicating State Plane Coordinates and station numbers of each underground structure and pole structure and indicate distances between structures starting from the beginning of the Work (existing facility structure).

B. Adjustment of Telecommunication Facilities

Adjustment is measured in linear feet for each type, size, and capacity of facility adjusted. The facility is measured along the center following the existing ground line from structure to structure through all equipment and hardware and includes the installation of any materials required by the Plans and Company's telecommunication construction standards/details/specifications, current edition. Measurement will begin and end at existing pole structures, vault structures, splice point, or termination cabinet where the newly installed Work connects to the existing facility. All measurements will begin and terminate at the intersection of the structure and grade. Measurement for the portions of buried facilities that transition up pole structures to tie to the overhead facilities will not be made. There will be no compensation for replacement of damaged or lost materials. There will be no separate measurement and payment for the transfer of existing materials to new location. Include the costs of transferring materials in the costs for the Adjustment of Telecommunication Facilities.

Obtain measurements with electronic survey equipment and provide Engineer with printout of Adjusted Telecommunication Facilities indicating State Plane Coordinates and station numbers of each underground structure and pole structure and indicate distances between structures starting from the beginning of the Work (existing facility structure).

C. Installation of Telecommunication Facilities, Manholes

Installation is measured per the number of each type and size of manhole installed.

D. Material Credit

Material Credit is a dollar amount credited to the Department for the value of unused or remaining Company provided materials rejected by the Company as being damaged or destroyed or materials lost or stolen. The amount will be tabulated based on an itemized list from the Company of all Company provided materials and based on the unused material remaining from the Work that was not returned to the Company or was rejected by the Company.

950.4.01 Limits

General Provisions 101 through 150

950.5 Payment

The Contract Unit Price for each Item shall include all costs incidental to the construction of the Item according to the Plans and as specified in this Section. Payment for any Item listed below is full compensation for the Item or Items in place, operational, and accepted.

A. Installation of Telecommunications Facilities

Installation will be paid for at the contract unit price per linear foot for each type, size, and capacity of facility installed. Payment is full compensation for purchasing, handling, delivery, and storage of material and installation of material in accordance with the Plans. Payment is full compensation for all the necessary equipment and labor for installation, including all items necessary and items specified in the Plans. Payment is full compensation for the entire linear feet required to traverse, below grade, the portion of the project specified and to tie back to existing facilities. This includes items such as directional boring, conduit, hardware, and any other item(s) necessary to provide for an in place and accepted operational facility of the type, size, and capacity specified in the Plans.

B. Adjustment of Telecommunications Facilities

Adjustment will be paid for at the contract unit price per linear foot for each type, size, and capacity of facility adjusted. Payment is full compensation for purchasing, handling, delivery, and storage of material and installation of material in accordance with the Plans. Payment is full compensation for all the necessary equipment and labor for adjustment and installation, including all items necessary and items specified in the Plans. Payment is full compensation for the entire linear feet required to traverse, below grade, the portion of the project specified and to tie back to existing facilities. This includes items such as conduit, hardware, and any other item(s) necessary to provide for an in place and accepted operational facility of the type, size, and capacity specified in the Plans.

C. Installation of Telecommunication Facilities, Manholes

Installation will be paid for at the contract unit price per each for each type and size of manhole installed. Payment is full compensation for all the necessary material, equipment, and labor for the installation, including all items necessary and all items specified in the Plans.

D. Material Credit

Material Credit is a dollar amount credited to the Department for the value of unused or remaining Company provided materials rejected by the Company as being damaged or destroyed or materials lost or stolen. The amount will be tabulated based on an itemized list from the Company of all Company provided materials and based on the unused material remaining from the Work that was not returned to the Company or was rejected by the Company.

Payment will be made under:

Item No. 950	Installation of Telecommunication Facilities, Conduit, Concrete Encased - ____ in, ____ way	Per linear foot (meter)
Item No. 950	Installation of Telecommunication Facilities, Conduit, Non-Concrete Encased - ____ in, ____ way	Per linear foot (meter)
Item No. 950	Installation of Telecommunication Facilities, Conduit, Directional Bore - ____ in, ____ way	Per linear foot (meter)
Item No. 950	Installation of Telecommunication Facilities, Conduit, Bridge Attachment - ____ in, ____ way	Per linear foot (meter)
Item No. 950	Adjustment of Telecommunication Facilities, Conduit, Concrete Encased - ____ in, ____ way	Per linear foot (meter)
Item No. 950	Adjustment of Telecommunication Facilities, Conduit, Non-Concrete Encased - ____ in, ____ way	Per linear foot (meter)
Item No. 950	Installation of Telecommunication Facilities, Copper Twisted Pair Cable, Direct Burial - ____ in	Per linear foot (meter)
Item No. 950	Installation of Telecommunication Facilities, Fiber Optic Cable, Direct Burial - ____ in	Per linear foot (meter)
Item No. 950	Installation of Telecommunication Facilities, Precast Manhole – Type 1 – Class 1	Each
Item No. 950	Installation of Telecommunication Facilities, Cast-in -place Manhole – Type 1 – Class 1	Each
Item No. 950	Telecommunication Facilities, Material Credit	$

950.5.01 Adjustments

General Provisions 101 through 150

Buy America Language for Utility Agreements

2013-11-19

In accordance with the BUY AMERICA requirements of the Federal regulations (23 U.S.C. 313 and 23 CFR 635.410) all manufacturing processes for steel and iron products or predominantly of steel or iron (at least 90% steel or iron content) furnished for permanent incorporation into the work on this project shall occur in the United States. The only exception to this requirement is the production of pig iron and the processing, pelletizing and reduction of iron ore, which may occur in another country. Other than these exceptions, all melting, rolling, extruding, machining, bending, grinding, drilling, coating, etc. must occur in the United States.

(a) Products of steel include, but are not limited to, such products as structural steel piles, reinforcing steel, structural plate, steel culverts, guardrail, steel supports for signs, signals and luminaires, and cable wire/strand. Products of iron include, but are not limited to, such products as cast iron frames and grates and ductile iron pipe. Coatings include, but are not limited to, the applications of epoxy, galvanizing and paint. The coating material is not limited to this clause, only the application process.

(b) A Certificate of Compliance shall be furnished for steel and iron products as part of the backup information with the billing. Records to be maintained by the RAILROAD/UTILITIES and the DEPARTMENT for this certification shall include a signed mill test report and/or a signed certification by a supplier, distributor, fabricator, or manufacturer that has handled the steel or iron product affirming that every process, including the application of a coating, performed on the steel or iron product has been carried out in the United States of America, except as allowed by this Section. The lack of these certifications will be justification for rejection of the steel and/or iron product or nonpayment of the work.

(c) The requirements of said law and regulations do not prevent the use of miscellaneous steel or iron components, subcomponents and hardware necessary to encase, assemble and construct the above products, manufactured products that are not predominantly steel or iron or a minimal use of foreign steel and iron materials if the cost of such materials used does not exceed one-tenth of one percent (0.1%) of the total contract price or $2,500.00, whichever is greater.

Office of Utilities

December 29, 2011

DEPARTMENT OF TRANSPORTATION

STATE OF GEORGIA

SPECIAL PROVISION

PROJECT: FY 17 Bridge Replacement

COUNTY: Dodge, Dooly, Colquitt, Quitman, Echols, Thomas

PI NO: 0015524

Section 951 – Cable Television Systems

Add the following:

951.1 General Description

This Work consists of furnishing labor, tools, equipment, and other items necessary for the installation, relocation, and adjustment of overhead and underground Cable Television Systems in accordance with the Project Plans, Owner Standards/Details/Specifications and Related Documents, and Specifications.

951.1.01 Definitions

General Provisions 101 through 150

Whenever the terms “Owner” or “Comcast” are used in this Special Provision and its related documents, they mean Comcast Cable Communications, Inc., its subsidiaries, successors and/or assigns.

Whenever the term “Plans” is used in this Special Provision and related documents, this includes the Cable Relocation Plans.

The term “Owner Project Manager” means the Owner’s authorized individual having the authority to give instructions pertaining to the Work. The Owner Project Manager has authority to approve or reject the Work and otherwise represent the Owner. The Owner Project Manager is not authorized to revoke, alter, enlarge, relax, or release any requirements of the Contract, Plans, and Specifications nor will they act as an agent for the Contractor. Ensure Owner Project Manager has access to all of the Work for inspection and testing and is invited to participate in any project meeting where Cable Television Systems may be discussed.

951.1.02 Related References

General Provisions 101 through 150

A. Standard Specifications

Section 107-Legal Regulations and Responsibility to the Public

Section 201-Clearing and Grubbing

Section 205-Roadway Excavation

Section 207-Excavation and Backfill for Minor Structures

Section 208-Embankments

Section 209-Subgrade Construction

Section 310-Graded Aggregate Construction

Section 400-Hot Mix Asphaltic Concrete Construction

Section 441-Miscelaneous Concrete

Section 444-Sawed Joints in Existing Pavements

Section 500-Concrete Structures

Section 810-Roadway Materials

Section 852-Miscellaneous Steel Materials

Section 861-Piling and Round Timber

Section 863-Preservative Treatment of Timber Products

B. Owner Standards/Details/Specifications and Related Documents

1. Comcast Notice to Proceed (NTP)
2. Comcast Scheduled Maintenance Document (SMR/SM)
3. Comcast Post Construction Inspection Report/Corrective Action List
4. Comcast Overhead and Underground Cable Construction Standards, current edition
5. National Electric Code of the National Fire Protection Association, current edition
6. National Electric Safety Code, ANSI – C2 (NESC)

   Available from the Institute of Electrical and Electronics Engineers at:

   http://www.ieee.org/portal/site/iportals/
7. Society of Cable Televisions Engineers, Cable Television Construction Standards, current edition

Obtain copies of the Owner Standards/Details/Specifications and Related Documents from:

Comcast Cable Communications

Deborah Collins

Regional Engineering Joint Use/Right-of-Way Liaison

2925 Courtyards Drive

Norcross, Georgia 30071

Phone: 770-559-2035

If there is a conflict or discrepancy between the Specifications and the Owner Standards/Details/Specifications and Related Documents, perform the Work in accordance with the Owner Standards/Details/Specifications and Related Documents, current editions. If any of the Owner Standards/Details/Specifications and Related Documents are revised after Notice to Contractors date, perform the Work specified in the Plans and Specifications using the revised Owner Standards/Details/Specifications and Related Documents. If revisions to the Owner Standards/Details/Specifications and Related Documents are dated on or after the letting date shown on the bid proposal, notify the Engineer in writing of such revisions.

951.1.03 Submittals

General Provisions 101 through 150

Provide submittals in accordance with Comcast Overhead and Underground Cable Construction Standards, current published edition.

A. Completion Letter and As-Built Documentation

Provide no later than thirty (30) calendar days after the completion of the work a Completion Letter and As-Built Documentation to both the Engineer and the Owner Project Manager consisting of the following information.

1. Include in the Completion Letter the date all cable television system pay items are completed and ready to be turned over to the Owner. Also, include a detailed estimate of quantities in place and explanation of any deviations or overruns.
2. Provide As-Built Documentation of the in-place and accepted cable television system. Documentation shall consist of two sets of full size plans and electronic files in the form of an AutoCAD version 2011 file or the same version and format in which the Cable Television System Plans were created.

951.2 Materials

A. Overhead and Underground Cable Television System

Provide any materials required for the construction of proposed cable television system shown on the Plans but not furnished by the Owner. Furnish for the completion of the Work all materials, tools, equipment, and labor in conformance with the Plans and current edition of the Owner Standards/Details/Specifications and Related Documents. When required by the Plans or Owner Standards/Details/Specifications and Related Documents, transfer all existing materials to the required locations as specified. Replace in-kind any existing material damaged during transfer.

951.2.01 Delivery, Storage, and Handling

General Provisions 101 through 150

Coordinate with the Owner Project Manager and Owner representative listed below to ensure all necessary materials are available for installation as required on the Plans, including the roadway staging plans. Follow any delivery, storage and handling procedures set forth in the Owner Standards/Details/Specifications and Related Documents. Coordinate with the Owner to take delivery of required material, load required material, transport all required material to the project, and properly store the material within the project limits or at Owner approved locations off the project limits. Return or dispose of all unused and remaining material as specified in subsection 951.3.05.H.

A bill of material will be provided by the Owner to the Contractor. Provide the Engineer with a copy of the bill of materials each time receipt and delivery of materials is made for the Project. Document all material received from the Owner and all material returned to the Owner. The Engineer and Owner Project Manager will be present when the contractor takes delivery from the Owner and when the Contractor returns material back to the Owner. With the Contractor, the Engineer and Owner Project Manager will verify materials to ensure all material delivered are documented, verified, and acknowledged in writing by all parties. The Contractor is responsible for all materials from the time of delivery from the Owner to the return of remaining materials to

the Owner or disposal. The Owner Project Manager will verify and document all in place material and will notify the Engineer of any discrepancies.

Comcast Cable Communications

Regional Engineering Joint Use/Right-of-Way Liaison

2925 Courtyards Drive

Norcross, Georgia 30071

951.3 Construction Requirements

951.3.01 Personnel

General Provisions 101 through 150

Contractors or Subcontractors performing work consisting of the construction and installation of cable television systems must be prequalified with the Owner and registered with the Department. Contact the Owner representative listed below to obtain a list of prequalified cable television system contractors. Cable television system contractors or subcontractors not prequalified with the Owner will not be approved to perform the cable television system work.

Comcast Cable Communications

Deborah Collins

Regional Engineering Joint Use/Right-of-Way Liaison

2925 Courtyards Drive

Norcross, Georgia 30071

Phone: 770-559-2035

951.3.02 Equipment

General Provisions 101 through 150

Ensure all equipment used is in conformance with the requirements and standards set forth in the Owner Standards/Details/Specifications and Related Documents. Obtain prior approval from the Engineer and Owner Project Manager before starting Work on specialty items such as fiber splicing equipment, boring equipment and others of similar complexity.

951.3.03 Preparation

General Provisions 101 through 150

Follow all preparation procedures set forth in the documents referenced in the Owner Standards/Details/Specifications and Related Documents. Perform necessary preliminary engineering, field engineering, survey, and construction staking and layout for the installation of the specified Cable Television System.

951.3.04 Fabrication

General Provisions 101 through 150

Ensure fabrication procedures and requirements conform to those set forth in the current edition of the Owner Standards/Details/Specifications and Related Documents. Submit shop drawings to the Engineer and Owner Project Manager for any items requiring fabrication. Obtain approval from the Engineer and Owner Project Manager prior to ordering materials.

951.3.05 Construction

Review the Plans and Owner Standards/Details/Specifications and Related Documents to ensure all items required for the Work are included in the price bid for each Cable Television System bid item. Provide a detailed list of materials required to complete the Work to the Engineer and Owner Project Manager prior to ordering and taking delivery from Comcast. In the required detailed list of materials, identify any material required to complete the Work not shown in the Plans. Communicate with the Owner Project Manager to insure the Owner is given 30 (thirty) calendar days notice for the Owner's portion of the Work.

A. Permission to Enter Private Property

Comply with Section 107—Legal Regulations and Responsibility to the Public.

Through an agreement between the Department and the Owner; the Contractor is given the permission to enter upon private properties found outside the project's construction limits. This permission is granted for the sole purpose of activities relating to the installation and/or adjustments of Cable Television Systems only and is limited to the area of existing easements obtained by the Owner. Such permission to enter upon private properties is temporary and such rights commence upon project award and automatically expire upon completion and project final acceptance by the Department.

In all cases where it is necessary to enter upon private property; take sole responsibility for and minimize any disruptions to personal property in the commencement of such work thereof. Additionally, comply with the following restrictions and requirements:

1. Limit all activities to the installation, relocation, or replacement of Cable Television facilities; and, work necessary to restore each private property as required in subsection 951.3.05.A.6.
2. Notify the Engineer, the private property owner and resident(s) 72 hours before commencing Work on said private property.
3. Ensure only vehicles and equipment required for the Work are allowed on any private property.
4. Do not store any materials, vehicles, or equipment on any private property longer than the duration required to perform the Work.
5. Do not use any private property as an on-site detour or vehicle path.
6. Immediately following any construction located on private property, restore all areas of the same parcel to a condition substantially the same as existed immediately prior to any such disturbances, including without limitation, any and all necessary repairs, and replacement of grassing, landscaping and pavement which may be removed and excavated by the Contractor. Ensure all necessary repairs are made to restore the original contours and re-establish the ground cover to control erosion.

B. Customer Notification Requirements

Follow all customer notification requirements as provided by the Owner and obtain approval from the Owner Project Manager prior to disrupting existing services required for the installation of the Cable Television Systems shown on the Plans.

C. Installation of Cable Television Systems

Follow all relevant procedures set forth in the current editions of the Owner Standards/Details/Specifications and Related Documents. Construct all temporary and proposed Cable Television Systems in accordance with the requirements set forth in the Contract, current editions of the

Owner Standards/Details/Specifications and Related Documents, and as instructed by the Owner Project Manager.

D. Excavating Trenches

Excavate trenches to the proper grade, depth, and width as follows:

1. Trench to Grade

   Ensure excavated trench bottoms are firm, free from boulders, and conform to the established grade.

   a. Backfill, according to Section 207, any part of the trench excavated below the established grade. Use Class I or Class II Soils (Section 810), and firmly compact the soil.

   b. Where the established grade of a trench is in rock, undercut the bottom of the trench by at least 6 in (150 mm), then backfill and compact according to Section 207.

   c. Conduct blasting operations according to Subsection 107.12.

   d. Excavate trenches under pavement to grade as follows:

      1) To remove the pavement, cut it at least 12 in (300 mm) wider than each trench edge to provide solid bearing for the pavement edges when replaced. Remove the pavement according to Section 444, except no separate payment will be made for sawed joints.

      2) Directional bore under existing sidewalks, curbs, gutters, and pavements according to subsection 951.3.05.E

2. Minimum Trench Depth

   Excavate trenches to provide at least 48 in (1.2 m) cover depth from the Work to the finished pavement surface, sidewalk, grass plot, etc. unless indicated otherwise on the Plans or by the Engineer.

   If any part of a Cable Television System is to be placed in or under a new embankment, finish the embankment to at least a 2 ft (600 mm) plane above the top of the proposed facility before excavating the trench.

3. Trench Width

   Excavate trenches wide enough to allow proper installation of the Work.

E. Directional Boring

This Work consists of installing various sizes of bores by directional boring through whatever materials may be encountered.

Furnish, for the Engineer's approval, a plan showing the proposed methods for the installation of the horizontal directional bore. The Engineer will review the proposed installation plan within 10 working days of receipt by the Department. No directional boring Work will be allowed until the Contractor's submitted plan is approved by the Engineer. Include the following detail in the plan, as a minimum:

1. List of projects completed by the company performing the boring operation, environment of installation (urban work, river crossing, freeway), diameter of product installation and length of bores. Include the name, address and phone number of an owner's representative with knowledge of the performance of the Work. Provide at least five previously completed projects of similar scope as the boring Work included in this contract.
2. List of the Contractor's key personnel with a resume of boring experience. The Department will be the sole judge of the qualifications of the foreman and the drill operators.

3. Location of all proposed boring entry and exit pits.
4. Proposed alignment of bore both horizontal and vertical. For the proposed alignment, maintain a minimum clearance of 18 inches (450 mm) or 2 times the diameter of the final product installation, whichever is greater, at any obstruction. Do not perform boring in select backfill areas such as at mechanically stabilized wall locations.
5. Proposed diameter of bore. This diameter is the diameter of the final product installation.
6. Proposed diameter of pilot borehole.
7. Proposed diameter of back reamer. Do not allow the diameter of the back reamer to exceed 1.5 times the diameter of the final product installation.
8. Proposed depth of cover. Ensure the depth of cover will be equal to or greater than 10 times the diameter of the final product installation. Under paved shoulders, maintain a minimum depth of cover of 4 feet (1.22 meters). Under travel lanes or outside of paved shoulders, maintain a minimum depth of cover of 8 feet (2.44 meters).
9. Evaluation of soil conditions to be encountered. A complete soil survey is not required. As a minimum, excavate the entrance and exit pits for the proposed bore and determine the nature of the material likely to be encountered. Base the drilling fluid composition on the evaluation of the materials encountered in the bore pit excavation.
10. Proposed composition of drilling fluid.
11. Proposed drilling fluid pressure and flow rates.
12. Proposed drilling fluid management plan.
13. Proposed pull back rate.
14. Type of tracking system.

Excavate suitable pits or trenches for the boring operation and for placing end joints or termination connectors of conduit when required. Securely sheet and brace pits or trenches where necessary to prevent caving. Where directional boring is required under railroads, highways, streets or other facilities, perform construction in a manner that will not interfere with the operation of the facility, and not weaken the roadbed or structure. Do not disturb or excavate any roadway pavement, subgrade, roadbed, paved shoulder, or unpaved median as part of the boring or pipe placing operation for any reason without written authorization by the Engineer.

In the above areas, unless otherwise authorized in writing by the Engineer, abandon in place any broken or damaged boring rod/stem, boring head (including transmitter/transponder locating heads and cutter heads), couplings (including back reaming, swivel or connector couplings), or any other material that cannot be retrieved as part of the pullback operation. Abandoned material will become the property of the Department. No additional payment for abandoned material will be made.

Continuously monitor the location and alignment of the pilot drill progress to insure compliance with the proposed installation alignment and to verify depth of the bore. Accomplish monitoring by manual plotting based on location and depth readings provided by the locating/tracking system or by computer generated bore logs which map the bore path based on information provided by the locating/tracking system. Obtain readings or plots on every drill rod and provide to the Engineer on a daily basis for as-built plans.

Monitor drilling fluids such as the pumping rate, pressures, viscosity and density during the pilot bore, back reaming, and/or pipe installation stages to ensure adequate removal of soil cuttings and to ensure the stability of the borehole is maintained. Do not allow drilling fluid pressures to exceed that which can be supported by the overburden (soil) pressure to prevent heaving or a hydraulic fracture of the soils. Contain excessive drilling fluids at the entry and exit points until recycled or removed from the site. Dispose of all drilling fluids in a manner acceptable to the appropriate local, state and federal regulations. The Work will be immediately suspended whenever drilling fluids seep to the surface other than in the boring entrance or exit pit. Propose a method to prevent further seepage and remove and dispose of any drilling fluid on the surface prior to resuming the boring operation.

To minimize heaving during pullback, determine the pullback rate to maximize the removal of soil cuttings and minimize compaction of the ground surrounding the borehole. Ensure the pullback rate minimizes over cutting of the borehole during the back reaming operation to ensure excessive voids are not created resulting in post installation settlement. Restore any surfaces damaged by the Work to their preconstruction conditions. All costs associated with the restoration are to be borne by the Contractor.

The distance the excavation extends beyond the end of the bore will depend upon the character of the excavated material. Do not exceed 2 feet (0.61 meters) in any case. If the character of the material being excavated makes it desirable, decrease the distance on instructions from the Engineer. Once the directional boring has commenced, insofar as practical, continue the operation without interruption. After the boring has been completed, immediately backfill the pits or trenches excavated to facilitate boring operations.

Proceed with the Work from a surface staging area provided for the boring equipment and workers. Obtain approval from the Engineer on the proposed location of the staging area. Bore the holes mechanically. Place excavated material near the top of the working pit and dispose of as required. Water or other fluids in connection with the boring operation will be permitted only to the extent necessary to lubricate cutting. Do not perform jetting.

Excavation will not be measured for payment.

In unconsolidated soil formations, a gel-forming colloidal drilling fluid consisting of at least 10% high grade carefully processed bentonite may be used to consolidate excavated material, seal the walls of the hole, and furnish lubrication for subsequent removal of material and immediate back reaming/installation of conduit. Continuously monitor and maintain the flow pressure on the drilling fluid at the minimal pressure required to place the fluid. In normal circumstances, do not exceed a flow pressure of 200 psi (1379 k Pa). At any time during boring operations, do not exceed a flow pressure of 500 psi (3448 k Pa). Remove all drilling fluid spoils from both ends of the bore and properly dispose of material at a properly permitted location.

Limit allowable variation from line and grade to a maximum of 2 percent.

Pressures grout any voids that develop during the installation operation and are determined by the Engineer to be detrimental to the Work with an approved mix.

Directional boring operations inherently include the risk of encountering below grade obstructions that begin to alter the bore direction. Should an obstruction be encountered, notify the Engineer immediately. Attempt to restore the bore alignment by performing a minimum of three attempts at each encountered obstruction with different corrective measures. Boring deeper or shallower (if minimum conduit depth can

be maintained), moving the boring head to the right or left of the obstruction, or attempting to bore through the obstruction (if other than solid rock) are acceptable corrective measures to restore bore alignment. The Engineer may authorize a relocation of the bore if a suitable bore alignment cannot be restored.

F. Removals

Remove all temporary and existing Cable Television facilities in accordance with the requirements set forth in the Plans, Owner Standards/Details/Specifications and Related Documents, and as instructed by the Owner Project Manager. Cutting of poles specified for removal or abandonment will not be permitted. Remove pole(s) and backfill void in accordance with Section 207. Backfill any voids remaining from the removal of underground facilities in accordance with Section 207. Replace, in-kind (material and depth), any voids remaining in roadway structures.

G. Transfers

Transfer all Cable Television Systems in accordance with the requirements set forth in the Plans, Owner Standards/Details/Specifications and Related Documents, and as instructed by the Owner Project Manager.

H. Remaining Material

1. Material Originating from The Owner:

   Return all unused material to the Owner. Provide a detailed summary to the Engineer comparing quantities of material received from the Owner and material to be returned to the Owner. The Owner Project Manager will verify and accept or reject all returned material. Credit the Department for any material rejected by the Owner due to, but not limited to, damage, material loss, or material theft.

2. Material Originating from the Project Site – Existing or Surplus Material:

   All surplus material originating from the project site that is removed and not intended for re-use on the project becomes the property of the Owner. Surplus materials will be inspected and accepted for salvage or designated waste by the Owner Project Manager. Transport salvaged materials to the Owner. Return all electrical equipment to the Owner. The Owner Project Manager will verify all materials are returned to the Owner.

951.3.06 Quality Acceptance

A. Testing

Follow all relevant procedures set forth in the documents Owner Standards/Details/Specifications and Related Documents. Ensure Owner Project Manager is present at all inspection and testing. Correct all deficiencies in the Work indicated by testing, inspecting, and as directed by the Engineer or Owner Project Manager.

B. Semi-Final Utility Inspection

When the contractor has finished the Cable Television System Work, the Contractor may, by written notice, request that a semi-final utility inspection be made. The Engineer, along with the Owner, will determine if the Cable Television System Work is ready for semi-final utility inspection. The Engineer, in agreement with the Owner, will have the final decision on when the Cable Television System Work is complete and thereby ready for semi-final utility inspection. If all the Cable Television System Work provided for and

contemplated by the Contract is found to be complete to the Engineer's satisfaction and all documents required in connection with the Cable Television System Work has been submitted and accepted then, the Contractor may request transfer of the completed Cable Television System Work to the Owner.

Once the new facilities are in service and accepted by the Owner, provide written correspondence notifying the Engineer and Owner that utility location services will be the responsibility of said Owner.

Such partial acceptance shall in no way relieve the Contractor of the responsibility for satisfactory completion of the Contract, or for failure of any portion of the Cable Television System Work prior to Final Acceptance of the Project.

951.3.07 Contractor Warranty and Maintenance

Abide by and honor the following Warranty Statement:

Contractor hereby warrants for a period of one (1) year (or longer, if so provided by law, and to the extent provided by law) from and after the date of Completion of work detailed in the Plans that all labor, workmanship, components, materials or other parts of the Work will be free from defects in material and workmanship under normal use and service. Contractor shall, at its own expense, repair or replace any defective components or parts supplied by Contractor or any Sub-Contractor. In addition, provided that the defect is the result of, or is any way caused by, any act or omission of Contractor or any Sub-Contractor, Contractor shall, at its own expense, repair or replace any defective components or parts supplied by the Owner. Such repairs or replacement parts are warranted for one (1) year from the date of incorporation in the Work or the remainder of the original warranty period, whichever is longer. Contractor will pay all reasonable costs (including without limitation attorneys' fees) incurred by or on behalf of the Owner in identifying a defect found to be the responsibility of Contractor. Upon notice from the Owner, Contractor will immediately correct and remedy any defects occurring during the warranty period without cost or expense to the Owner. Nothing contained herein, however, shall be construed to define or limit the rights of the Owner as otherwise provided by law or elsewhere in the Documents in the event such defects occur. After construction is completed and during the balance of the warranty period, the Owner may choose to have its agents, employees or other contractors perform any required replacement or repairs. If the Owner or its agent performs the repairs or replacement, the Owner shall invoice Contractor for the Owner's reasonable costs, including without limitation, labor costs, and Contractor shall pay the Owner for such costs within thirty (30) days after receipt of an invoice or, at the Owner's option, the Owner may deduct such costs from any Retained Amount or from any amount owed by the Owner or any of its Affiliates to Contractor or any of its Affiliates in connection with this or any other agreement. With respect to installation, Audit or Disconnect work, if the Owner discovers defects in the Work within one (1) year after Completion of the installation, Audit or Disconnect, the Owner may require Contractor to correct the defects at no expense to the Owner, or may elect to have the Work corrected by the Owner's personnel or other Contractors of the Owner and charge the cost thereof to Contractor as provided above.

General Provisions 101 through 150

951.4 Measurement

Overhead and underground Cable Television Systems, and other items of Work in this Specification, in place, operational, and accepted, are measured for payment as follows:

A. Overhead Cable Television

Overhead Cable Television is measured in linear feet (meter) for the facility installed and accepted. The facility is measured along the centerline of the facility from pole structure to pole structure through all connections, active and passive devices, amplifiers, and all other electrical equipment and shall include the installation of the pole structures, if specified in the Plans, and any materials required by the Owner Standards/Details/Specifications and Related Documents. Measurement will begin and end at existing pole structures where the newly installed Work ties back to the existing facility or specified ending structure. There will be no compensation for replacement of damaged or lost materials. There will be no separate measurement and payment for the transfer of existing materials to new location. Include the costs of transferring materials in the costs for the installation of Overhead Cable Television System, temporary or permanent.

Obtain measurements with electronic survey equipment and provide Engineer with printout of installed facilities indicating State Plane Coordinates and station numbers of each pole structure and indicate distances between pole structures starting from the beginning of the Work (existing facility pole structure).

B. Overhead Cable Television (Temporary)

Temporary Overhead Cable Television is measured in linear feet (meter) for the facility installed. The facility is measured along the centerline of the facility from pole structure to pole structure though all connections, active and passive devices, amplifiers, and all other electrical equipment and shall include the installation of the pole structures, if specified in the plans, and any materials required by the Owner Standards/Details/Specifications and Related Documents. Measurement will begin and end at existing pole structures where the newly installed Work connects to the existing facility or specified ending structure. There will be no compensation for replacement of damaged or lost materials. There will be no separate measurement and payment for the transfer of existing materials to new location. Include the costs of transferring materials in the costs for the installation of Overhead Cable Television System, temporary or permanent.

Obtain measurements with electronic survey equipment and provide Engineer with printout of installed facilities indicating State Plane Coordinates and station numbers of each pole structure and indicate distances between pole structures starting from the beginning of the Work (existing facility pole structure).

C. Underground Cable Television

Underground Cable Television is measured in linear feet (meter) for the facility installed. The facility is measured along the center following the existing ground line from structure to structure through pedestals, vaults, junction boxes, and all other electrical equipment and shall include the installation of the pole structures, if specified in the plans, and any materials required by the Owner Standards/Details/Specifications and Related Documents. Measurement will begin and end at existing pole structures, vaults, pedestals, junction boxes, or splice points where the newly installed Work connects to the existing facility. All measurements will begin and terminate at the intersection of the structure and grade. Measurement for buried facilities that transition up pole structures to tie to the overhead facilities will not be made. There will be no compensation for replacement of damaged or lost materials. There will be no separate measurement and payment for the transfer of existing materials to new location. Include the costs

of transferring materials in the costs for the installation of Underground Cable Television System, temporary or permanent. There will be no separate measurement and payment for directional boring. Include the costs of directional boring in the costs of Underground Cable Television System, Temporary or Permanent.

Obtain measurements with electronic survey equipment and provide Engineer with printout of installed facilities indicating State Plane Coordinates and station numbers of each underground structure and pole structure and indicate distances between structures starting from the beginning of the Work (existing facility structure).

D. Installation of Poles

Installation of Steel, Concrete, and Wood Poles will not be measured separately for payment. Steel, Concrete, and Wood Poles are included in the measurement of the Overhead or Underground Cable Television, Permanent or Temporary.

E. Installation of Cable Television Wire

Installation of cable for a feeder, trunk, or fiber lines will not be measured separately for payment. Cable is included in the measurement of the Overhead or Underground Cable Television, Permanent or Temporary.

F. Removal of Overhead Cable Television, Permanent or Temporary

Removal of the Overhead Cable Television is measured in linear feet (meter) for the facility removed. The facility is measured along the centerline of the facility from pole structure to pole structure through all connections, active and passive devices, amplifiers, and all other electrical equipment. Measurement will begin and end at existing pole structures where the Cable Television facility specified for removal connects to the existing facility to remain. There will be no separate measurement and payment for the transfer of existing materials to new location. Include the costs of transferring materials in the costs for the installation of Overhead Cable Television System, Temporary or Permanent. There will be no separate measurement and payment for backfilling of voids remaining from removal or replacement of roadway sections. Removal of Cable television service lines will be measured as specified in this Section.

Obtain measurements with electronic survey equipment and provide Engineer with printout of removed facilities indicating State Plane Coordinates and station numbers of each pole structure and indicate distances between pole structures starting from the beginning of the Work (existing facility pole structure).

G. Removal of Underground Cable Television, Permanent or Temporary

Removal of Underground Cable Television is measured in linear feet (meter) for the facility removed. The facility is measured along the center following the existing ground line from structure to structure through pedestals, vaults, junction boxes, and all other electrical equipment, and shall include the removal, if required by the plans, of any materials that are integral to the temporary facility. Measurement will begin and end at existing pole structures or vault structures where the newly installed facility connects to the existing facility. There will be no separate measurement and payment for the transfer of existing materials to new location. Include the costs of transferring materials in the costs for the installation of Underground Cable Television System, Temporary or Permanent. There will be no separate measurement and payment for backfilling of voids left by removed underground equipment or from removal or replacement of roadway section.

Obtain measurements with electronic survey equipment and provide Engineer with printout of removed facilities indicating State Plane Coordinates and station numbers of each underground structure and pole structure and indicate distances between structures starting from the beginning of the Work (existing facility structure).

H. Removal of Poles

Removal of Steel, Concrete, and Wood Poles will not be measured separately for payment. Removal is included in the measurement of the removal of Overhead or Underground Cable Television, permanent or temporary.

I. Material Credit

Material Credit is a dollar amount credited to the Department for unused or remaining Owner provided materials rejected by the Owner as being damaged or destroyed or materials lost or stolen. The amount will be tabulated based on an itemized list from the Owner and based on unused material remaining from the Work.

951.4.01 Limits

General Provisions 101 through 150

951.5 Payment

The Contract Unit Price for each Item shall include all costs incidental to the construction of the Item according to the Plans, Owner Standards/Details/Specifications and Related Documents, and as specified in this Section. Payment for any Item listed below is full compensation for the Item or Items in place, operational, and accepted.

A. Overhead Cable Television

Overhead Cable Television will be paid for at the contract unit price per linear foot (meter) for the facility installed. Payment is full compensation for handling, delivery, and storage of material and installation of material in accordance with the Plans and Owner Standards/Details/Specifications and Related Documents. Payment is full compensation for necessary handling and delivery of surplus material to the Owner. Payment is full compensation for all the necessary equipment and labor to install the Overhead Cable Television, including all items necessary and items specified in the Owner Standards/Details/Specifications and Related Documents and Plans. Payment is full compensation for the entire linear feet required to span the portion of the project specified and to tie back to existing facilities. This includes items such as cable, connectors, active and passive devices, amplifiers, poles (wood, steel, or concrete), and any other item(s) necessary to provide for an in place and accepted operational Overhead Cable Television of the size specified in the Plans and Owner Standards/Details/Specifications and Related Documents.

B. Overhead Cable Television (Temporary)

Temporary Overhead Cable Television will be paid for at the contract unit price per linear foot (meter) for the facility installed. Payment is full compensation for handling, delivery, and storage of materials and installation of materials in accordance with the Plans and Owner Standards/Details/Specifications and Related Documents. Payment is full compensation for any work required to accommodate project staging, detours, or structures not specified for payment elsewhere in the contract. Payment is full compensation for necessary handling and delivery of surplus material to the Owner. Payment is full compensation for all

the necessary equipment and labor to install the Temporary Cable Television, including all items necessary and items specified in the Owner Standards/Details/Specifications and Related Documents and Plans. Payment is full compensation for the entire linear feet required to span the portion of the project specified and to tie back to existing facilities. This includes items such as cable, connectors, active and passive devices, amplifiers, poles (wood, steel, or concrete) and any other item(s) necessary to provide for an in place and accepted operational Overhead Cable Television of the size specified in the Plans and Owner Standards/Details/Specifications and Related Documents.

C. Underground Cable Television

Underground Cable Television will be paid for at the contract unit price per linear foot (meter) for the facility installed. Payment is full compensation for handling, delivery, and storage of material and installation of material in accordance with the Plans and Owner Standards/Details/Specifications and Related Documents. Payment is full compensation for necessary handling and delivery of surplus material to the Owner. Payment is full compensation for all the necessary equipment and labor to install the Underground Cable Television, including all items necessary and items specified in the Owner Standards/Details/Specifications and Related Documents and Plans. Payment is full compensation for the entire linear feet (meter) required to traverse, below grade, the portion of the project specified and to tie back to existing facilities. This includes items such as pole structures, directional boring, wire, conduit, vaults, pedestals, junction boxes, splice points, and any other item(s) necessary to provide for an in place and accepted operational Underground Cable Television of the size specified in the Plans and Owner Standards/Details/Specifications and Related Documents. There will be no separate measurement and payment for directional boring. Include the costs of directional boring in the costs of Underground Cable Television System, Temporary or Permanent.

D. Installation of Poles

No separate payment will be made for the installation of Steel, Concrete, or Wood Poles. Costs for the installation of poles are included in the price for Overhead or Underground Cable Television, Permanent or Temporary.

E. Installation of Cable Television Wire

No separate payment will be made for the installation of cable for feeder, trunk, or fiber lines. Costs for the installation of cable are included in the price for Overhead or Underground Cable Television, Temporary or Permanent.

F. Removal of Overhead Cable Television, Permanent or Temporary

Removal of Overhead Cable Television will be paid for at the contract unit price per linear foot (meter) for the facility removed. Payment is full compensation for removal, handling, delivery, storage, and surplus of materials. Payment is full compensation for necessary handling and delivery of surplus material to the Owner. Payment is full compensation for all the necessary equipment and labor to remove the Overhead Cable Television. Payment is full compensation for the entire linear feet (meter) removed back to existing or new facilities as shown on the Plans. This includes items such as cable, connectors, active and passive devices, amplifiers, poles (wood, steel, or concrete), and any other item(s) necessary for complete removal.

All material removed and not re-used becomes the property of the Owner. Payment for Removal of Overhead Cable Television includes the removal, handling, delivery, and off loading of all material at a Comcast Operating Headquarters specified by the Owner Project Manager.

G. Removal of Underground Cable Television, Permanent or Temporary

Removal of Underground Cable Television will be paid for at the contract unit price per linear foot (meter) for the facility removed. Payment is full compensation for removal, handling, delivery, storage, and surplus of materials. Payment is full compensation for all the necessary equipment and labor to remove the Underground Cable Television. Payment is full compensation for the entire linear feet (meter) removed back to existing or new facilities as shown on the Plans. This includes removal of items such as wire, conduit, transformers, vaults, hardware, and any other item(s) necessary for complete removal.

All material removed and not re-used becomes the property of the Owner. Payment for Removal of Overhead Cable Television includes the removal, handling, delivery, and off loading of all material at a Comcast Operating Headquarters specified by the Owner Project Manager.

H. Removal of Poles

No separate payment will be made for the removal of Steel, Concrete, or Wood Poles.

I. Material Credit

Material Credit is a dollar amount credited to the Department for the value of unused or remaining Owner provided materials rejected by the Owner as being damaged or destroyed or materials lost or stolen. The amount will be tabulated based on an itemized list from the Owner or all Owner provided materials and based on the unused material remaining from the work that was not returned to the Owner or was rejected by the Owner.

Payment will be made under:

Item No. 951	Overhead Cable Television, Feeder – Coax, ____ in	Per linear foot (meter)
Item No. 951	Overhead Cable Television, Service, RG6, – Coax, ____ in	Per linear foot (meter)
Item No. 951	Overhead Cable Television, Service, RG11 – Coax, ____ in	Per linear foot (meter)
Item No. 951	Overhead Cable Television, Temporary – Coax, ____ in	Per linear foot (meter)
Item No. 951	Overhead Cable Television, Trunk – Coax, ____ in	Per linear foot (meter)
Item No. 951	Overhead Cable Television, Fiber, Single mode, ____ count	Per linear foot (meter)
Item No. 951	Underground Cable Television, Feeder – Coax, ____ in	Per linear foot (meter)
Item No. 951	Underground Cable Television, Service, RG6, – Coax, ____ in	Per linear foot (meter)
Item No. 951	Underground Cable Television, Service, RG11 – Coax, ____ in	Per linear foot (meter)
Item No. 951	Underground Cable Television, Temporary – Coax, ____ in	Per linear foot (meter)
Item No. 951	Underground Cable Television, Trunk – Coax, ____ in	Per linear foot (meter)
Item No. 951	Underground Cable Television, Fiber, Single mode, ____ count	Per linear foot (meter)
Item No. 951	Removal of Overhead Cable Television, Feeder – Coax	Per linear foot (meter)
Item No. 951	Removal of Overhead Cable Television, Service – Coax	Per linear foot (meter)

Item No. 951	Removal of Overhead Cable Television, Temporary – Coax	Per linear foot (meter)
Item No. 951	Removal of Overhead Cable Television, Trunk – Coax	Per linear foot (meter)
Item No. 951	Removal of Overhead Cable Television, Fiber	Per linear foot (meter)
Item No. 951	Removal of Underground Cable Television, Feeder – Coax	Per linear foot (meter)
Item No. 951	Removal of Underground Cable Television, Service – Coax	Per linear foot (meter)
Item No. 951	Removal of Underground Cable Television, Temporary – Coax	Per linear foot (meter)
Item No. 951	Removal of Underground Cable Television, Trunk – Coax	Per linear foot (meter)
Item No. 951	Removal of Underground Cable Television, Fiber	Per linear foot (meter)
Item No. 951	Cable Television Systems, Material Credit	$

951.5.01 Adjustments

General Provisions 101 through 150

Office of Utilities

Georgia Department of Transportation

Technical Provisions

For

Design-Build Agreement

P.I. No. 0015524

FY 17 Bridge Replacement Project

Attachment 11-1

GUIDELINES FOR PAVEMENT SECTIONS FOR MINOR PROJECTS – ADDENDUM (SEPTEMBER 18, 2013)

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

RECEIVED
SEP 19 2013
DESIGN POLICY & SUPPORT

INTERDEPARTMENTAL CORRESPONDENCE

FILE Pavement Design

OFFICE Forest Park, Georgia

DATE September 18, 2013

FROM Charles A. (Chuck) Hasty, P.E., State Materials Engineer

TO Brent A. Story, P.E., State Design Policy Engineer

SUBJECT **Guidelines for Pavement Sections for Minor Projects - Addendum**

Attached for your information and routing for approval are revised guidelines for pavement sections for minor projects. The guidelines are applicable for all non-interstate roads with an average daily traffic volume equal or less than 10,000 vehicles per day **and** a truck percentage equal to or less than 10 percent. In addition, the guidelines should be used for pavement work constructed by permit within Georgia Department of Transportation-owned rights of way.

The guidelines, once approved, are for immediate implementation. Pavement designs meeting the minor project guideline criteria shall not require review and approval by the State Pavement Engineer or the Pavement Design Committee. Pavement Evaluation Summary Reports are still required for projects as recommended in the Plan Development Process (PDP).

If additional information is needed, please contact Mr. A.J. Jubran, P.E. at (404) 608-4771 or Mr. Steve Pahno at (404) 608-4772.

CAH:GEF:AJJ:svp
Attachments
Guidelines for Pavement Sections for Minor Projects
Georgia Map for Regional Factors, Typical Soil Support Values, and 'k' Values

GUIDELINES FOR PAVEMENT SECTIONS FOR MINOR PROJECTS

Criteria for use of the Minor Project Guidelines (MPG):

- Non-interstate roadways that require up to a 20-year design life
- Average Two-Way ADT $\leq$ 10,000 vehicles/day
- 24-hour Truck percentage $\leq$ 10%

The use of these Guidelines requires the following information:

- Traffic data that has been approved by GDOT.
- The Soil Support Value (SSV) and Regional Factor (RF) for the project.
- The calculated Total Daily Loadings (TDL) for each pavement thickness to be designed. The TDL can be calculated manually or by use of the current pavement design software that can be downloaded from the GDOT web site. In the calculation of the TDL, the following conservative values are to be used:
  - 18-kip Representative ESAL Factor = 1.17
  - Lane Distribution Factor (LDF) = 1.0

Example of the Manual Calculation of the Total Daily Loadings (or Daily ESALs)

Given:

Initial Two-Way ADT = 8,000 vpd	} Average Two-Way ADT = 10,000 vpd
Final Two-Way ADT = 12,000 vpd	} Average One-Way ADT = 5,000 vpd
24-Hr Trucks = 10%	
LDF = 1.0	} Default
ESAL Factor = 1.17	} Default

TDL = (Average One-Way ADT) * (LDF) * (24-Hr Trucks) * (18-Kip ESAL Factor)
TDL = (5000 vpd) * (1.0) * (0.10) * (1.17)
TDL = 585 vpd *(Note: this is also the maximum TDL possible under these Guidelines.)*

Explanation of the MPG Document

- The Map for RF and Typical SSV provides historical values that have been successfully used in the design of pavement sections by the Department. This map can be used when no Soil Survey Summary has been prepared.
- From Table A, the recommended MPG Section is obtained given the SSV, RF, and calculated TDL. For example, the recommended section for a road with a SSV = 4.0, RF = 1.7, and calculated TDL = 400 vpd is MPG Section B-10.
- Table B indicates that MPG Section B-10 is equivalent to an asphaltic concrete pavement thickness of 7.25 inches. The hyphenated number indicates the recommended graded aggregate base (GAB) thickness, which is 10 inches in this example.
- Note that there is no MPG Section for an 8.25-inch asphaltic concrete pavement because of construction issues, which make construction of a 5-inch thick layer of 25mm Superpave problematic. Instead, an additional two inches of GAB is substituted for the 5th inch of asphaltic concrete.

GUIDELINES FOR PAVEMENT SECTIONS FOR MINOR PROJECTS

Soil Support Value	Regional Factor	Design Average Total Daily Loadings	MPG Section
4.5	1.6	≤ 265	A-8
		266 to 430	B-8
		431 to 585	B-10
4.0	1.4 to 1.7	≤ 160	A-8
		161 to 260	B-8
		261 to 415	B-10
		416 to 585	C-8
3.5	1.4 to 1.6	≤ 190	A-10
		191 to 295	B-10
		296 to 460	B-12
		461 to 585	C-10
3.0	1.5 to 1.8	≤ 110	A-10
		111 to 170	B-10
		171 to 265	B-12
		266 to 410	C-10
		411 to 585	D-10
	2.0 to 2.4	≤ 80	A-10
		81 to 130	B-10
		131 to 200	B-12
		201 to 305	C-10
		306 to 462	D-10
2.5	1.5 to 1.8	≤ 115	A-12
		116 to 180	B-12
		181 to 275	B-14
		276 to 415	C-12
		416 to 585	D-12
	2.0 to 2.4	≤ 85	A-12
		86 to 135	B-12
		136 to 205	B-14
		206 to 310	C-12
		311 to 462	D-12
2.0	1.6 to 2.0	≤ 70	A-12
		71 to 105	B-12
		106 to 160	B-14
		161 to 240	C-12
		241 to 361	D-12

Table A: Minor Project Guideline Sections. Under the MPG Section column, the hyphenated number represents the graded aggregate base (GAB) thickness recommended for construction. For example, MPG Section D-12 indicates that 12 inches of GAB are recommended.

GUIDELINES FOR PAVEMENT SECTIONS FOR MINOR PROJECTS

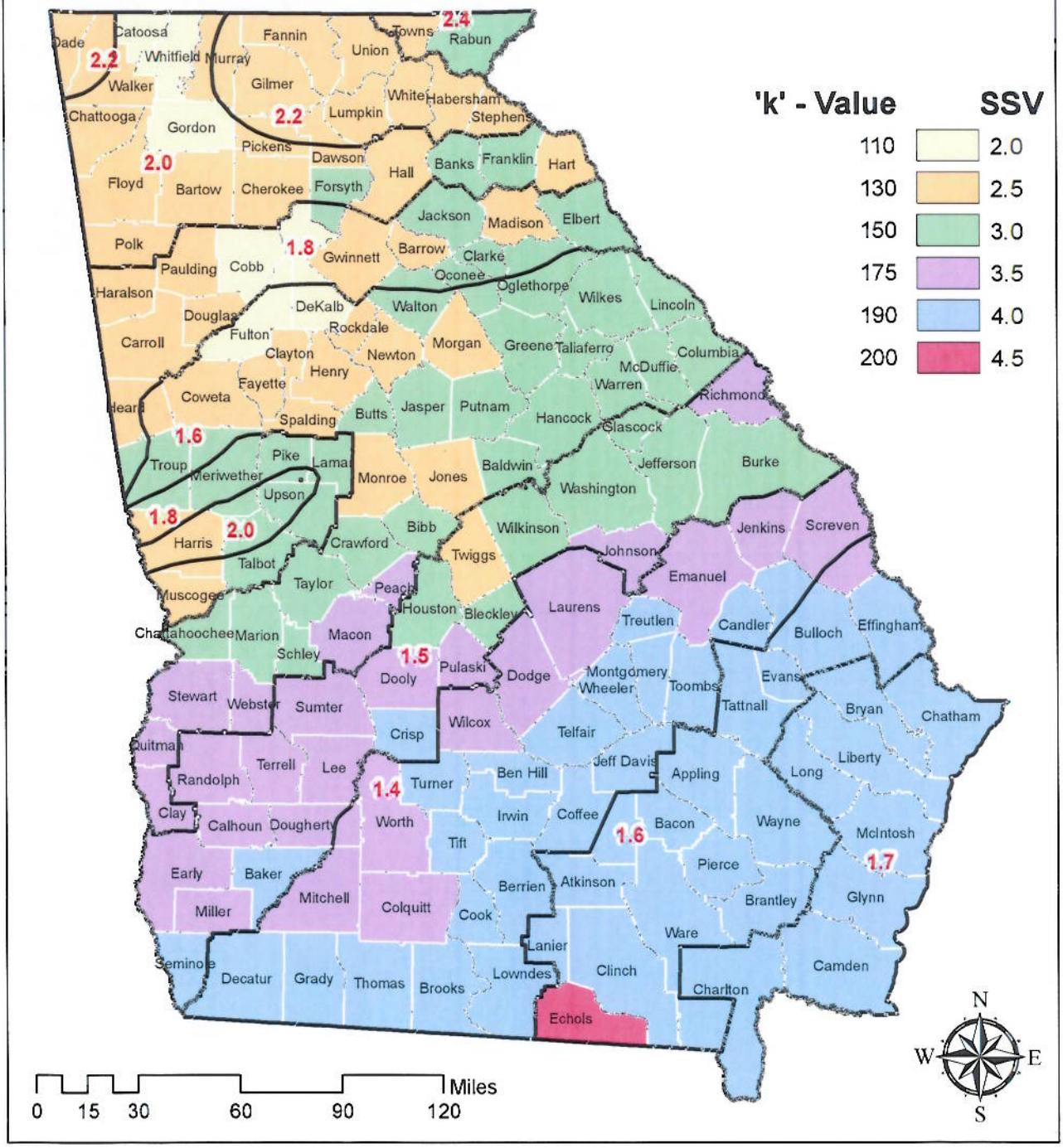
MPG Section Code	Total Asphaltic Concrete Thickness (inches)	9.5mm SP *	19mm SP	25mm SP
A	6.25	1.25	2	3
B	7.25	1.25	2	4
C	9.25	1.25	2	6
D	10.25	1.25	2	7

Table B: MPG Section Codes for Asphaltic Concrete Pavement Thicknesses

* Place 9.5mm SP, Type I when ADT < 2,000 vpd
Place 9.5mm SP, Type II when 2,000 vpd $\leq$ ADT < 10,000 vpd

Georgia Map Showing

Regional Factors (RF) , Typical Soil Support Values (SSV) and 'k'-Values



Georgia Department of Transportation

Technical Provisions

For

Design-Build Agreement

P.I. No. 0015524

FY 17 Bridge Replacement Project

Attachment 13-1

STRUCTURES SPECIAL PROVISIONS

SP 443 Elastomeric Profile Bridge Joint Seals

SP 447 Modular Expansion Joints

SP 449 Silicone Seal

SP 500 HPC

SP 500 Light Weight Concrete

SP 500 LRFD

SP 500 Mass Concrete

SP 511 Mechanical Bar Splice

SP 865 Manufacture of Precast Concrete Members

Date: May 15, 2013

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

SPECIAL PROVISION

Project No:
P.I. No. 0015524

SECTION 443 - ELASTOMERIC PROFILE BRIDGE JOINT SEALS

443.1 General Description

This work consists of furnishing and installing a bridge deck joint seal device to the limits shown on the plans that consists of a monolithic steel strip seal retainer, a polychloroprene gland, and alubricant adhesive. Only a continuous full length strip seal joint system is acceptable, unless stage construction or excessive length prohibits monolithic installation. Utilize a prequalified expansion device manufacturer with a five year proven history of successful product manufacture.

Provide an expansion joint device designed for HS-20 truck loading and impact in accordance with 2002 AASHTO specifications.

443.1.01 Definitions

A. Strip Seal Expansion Joint Device

This device is constructed of steel elements designed with a locking mechanism capable of securely locking the edges of a continuous non-reinforced polychloroprene gland. The steel elements are anchored to the structure in accordance with the specification. All materials are as specified in the contract documents or as recommended by the manufacturer of the strip seal joint assembly. The strip seal joint assembly is referred to throughout the specifications as the expansion joint device.

B. Joint

Provide joint opening between two portions of a structure to allow for expansion and contraction.

443.1.02 Related Referernces

General Provisions 101 through 150.

443.1.02 Submittals

Submit for review by the Engineer, complete shop drawings and product data for the expansion device. Submit seven (7) complete sets of information. At the discretion of the Engineer, furnish facilities for inspection of the completed device or a representative sample in the manufacturer's plant. Allow the inspector free access to the necessary

parts of the manufacturer's plant. Accurately set and securely support at the correct grade and elevation and the correct joint opening based on temperature as shown on the plans and on the approved shop drawings.

443.2 Materials

Furnish a manufacturer's certification that the materials proposed for use on the project have been pretested and meet the requirements as set forth in the specification and as detailed in the corresponding contract drawings. Do not install materials in the field prior to the Engineer's approval. The strip seal expansion joint device, including anchorages, is to be supplied by the manufacturer. The following requirements for each component are to be verified by the manufacturer:

A. Steel Elements

Provide ASTM A-588 weathering grade steel for the material utilized to produce a shape suitable to mechanically lock the sealing element in place throughout the normal movement cycle of the joint. Provide a minimum thickness of ¼ in. as measured from the internal locking mechanism cavity to the top surface of the steel retainer. Provide minimum dimensions of 2-1/4 in. width and 3 in. height.

Provide steel strip seal retainers that are a monolithic steel shape with a machined seal retainer cavity. Multiple component welded steel shapes and rolled steel, that is bent or crimped to achieve final shape and/or seal retainer cavity, is not permitted. Perform all welding in accordance to the Georgia Standard Specifications and paragraph D-1.5 of the AWS welding code. Provide full penetration groove welds for splices between sections of steel strip seal retainers.

B. Continuous Polychloroprene Gland

Supply and install the polychloroprene gland in one continuous length. Provide a gland with a shape that promotes self-removal of foreign material during normal joint operation. Provide a gland with physical properties generally in accordance with the following:

PHYSICAL PROPERTY	ASTM TEST METHOD	REQUIREMENTS
Tensile strength, min, psi	D-412	2000
Elongation @ break, min, %	D-412	250%
Hardness, Type A durometer	D-2240 Modified	55 ± 5% points
Oven aging, 70h @ 212°F	D-573	
Tensile strength, max % loss		20% max
Elongation, max % loss		20% max
Hardness, Type A durometer, points change		0 to + 10
Oil Swell, ASTM Oil No. 3, 70h @ 212°F	D-471	
Weight change, max %		45%
Ozone resistance	D-1149 Modified	
20% strain, 300 pphm in air 70h @ 104°F		no cracks
Low temperature stiffening, 7 days @ 14°F		
Hardness, Type A durometer, points change		0 to + 15
Compression Set,		
70h @ 212°F max	D-395 Method B (modified)	40%

C. Lubricant Adhesive

Use a one part moisture curing polyurethane and hydrocarbon solvent mixture meeting the requirements of ASTM D-4070-81 for the material used in bonding the polychloroprene gland to the steel elements.

D. Anchorage

Provide an anchorage as detailed on the contract drawings with a minimum of 0.75 in^2 of bolt area per 1.0 linear foot of joint (Minimum ½ in. diameter hardware at 6 in. O.C. both sides of joint).

443.2.01 Delivery, Storage and Handling

General Provisions 101 through 150.

Store all materials to prevent damage from the elements and to ensure the preservation of its quality and fitness for the work. Avoid contact with flame.

Inspect all stored materials, although accepted before storage, prior to their use in the work. Ensure that all stored materials meet the requirements of the Contract at the time of use.

Remove from the site of the work immediately, any material rejected because of failure to meet the required tests or rejected because of damage. Replace all removed material at no additional cost to the Department.

443.3 Construction Requirements

443.3.01 Personnel

General Provision 101 through 150.

443.3.02 Equipment

General Provisions 101 through 150.

443.3.03 Preparation

General Provisions 101 through 150.

443.3.04 Fabrication

General Provisions 101 through 150.

443.3.05 Construction

Measure and record the surface temperature of the concrete and/or steel with a surface thermometer as described below. Record the temperature of the underside of the concrete slab at each end of the superstructure element adjacent to the expansion joint. Take the average of the readings to use with the temperature shown on the shop drawings.

Immediately prior to installation, inspect the joint system for proper alignment and complete bond between the neoprene sealer and the steel and proper stud placement and effectiveness. No bends or kinks in the joint system are allowed, except as necessary to follow the roadway grades. Any joint system exhibiting bends or kinks due to transporting or as a result of mishandling are to be removed from the work site, and replaced by a new joint system, at no additional expense to the Department. Where stage construction is required, connect all steel sections using full penetration groove welds.

Inspect studs visually and give each a light blow with a 4 lb. hammer to ensure full connection to steel. Repalce any stud which does not have a complete end weld, or does not emit a ringing sound when struck with a light blow by hammer. Carefully remove studs located more than 1 inch in any direction from the location shown on the shop drawings and provide a new stud placed on the proper location. Perform all stud replacements at no additional expense to the Department.

Blast clean all metal surfaces to come in contact with the neoprene sealer in accordance with the requirements of Steel Structures Painting Council Surface Preparation NO. 6 (SSPC-SP6)-Commercial Blast Cleaning. After cleaning, all cleaned surfaces are to exhibit a clean quality of C SA 2, or better, as defined by Steel Structures Painting Council Standard SSPC-VIS 1.

Protect cleaned metal surfaces until such time as the sealer and lubricant adhesive are placed against the metal surface. Reclean any metal surface upon which rusting appears in accordance with the foregoing, at no additional expense to the Department. Replace neoprene seals not fully bonded to the steel at no additional expense to the Department.

After installation and when the adjacent concrete is cured, water test the expansion joint device under the Engineer's direction and supervision. Seeping of water through the joint is cause for rejection of the expansion joint device.

443.4 Measurement

Measurement for the expansion device is per each device completely installed, which is the expansion joint device in place with the concrete placed and finished and the watertight integrity test performed as described above.

443.5 Payment

Payment for the expansion device as specified above is paid for at the Contract Unit price bid per each. Such payment is full compensation for furnishing all equipment and materials and performing the work in accordance with the Plans and Specifications.

Payment will be made under:

Item No. 443	Elastomeric Profile Bridge Joint Seals, Bridge No - __ , Bent No - __	Per each

Date: June 28, 2006
First Use Date 2001 Specifications: March 19, 2004

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

SPECIAL PROVISION

PROJECT NO.
P.I. NO. 0015524

Section 447—Modular Expansion Joints

Delete Section 447 and substitute the following:

Section 447—Modular Expansion Joints

447.1 General Description

This work includes fabricating, furnishing, and installing a modular expansion joint device at the locations shown on the plans and in accordance with these specifications. Seal the deck surface and side barriers to prevent water from seeping through the bridge deck. Any seeping of water through the joint will be cause for rejection of the expansion device.

Use a modular expansion joint device supplied by one of the following:

(a) Wabo Modular Expansion Joint System – as furnished by:

Watson Bowman Acme
95 Pineview Drive
Amherst, New York 14228 Tel. (716) 691-7566

(b) Steelflex Modular Expansion Joint System – as furnished by:

D.S. Brown Company
300 East Cherry Street
North Balitmore, Ohio 45872 Tel. (419) 257-3561

Only a continuous full length modular joint device supplied by one of the foregoing suppliers is acceptable. No other supplier will be considered. Only one type of modular joint device will be permitted to be installed at all locations. The installation of two different types at separate locations will not be permitted.

447.1.01 Definitions

The term modular expansion device includes the following items:

- Elastomeric joint seals
- Support bar
- Center beam

- Edge beam
- Sliding elastomeric bearings

447.1.02 Related References

A. Standard Specifications

Section 501—Steel Structures

Section 535—Painting Structures

Section 645—Repair of Galvanized Coatings

Section 851—Structural Steel

B. Referenced Documents

General Provisions 101 through 150.

447.1.03 Submittals

A. Shop Drawings

Submit shop drawings in accordance with Section 501 of the Specifications. Include the manufacturer's instructions for proper installation of the expansion joint device. Show details of the expansion device at the barrier. Furnish the facilities for testing and inspecting the completed device or have the manufacturer provide a representative sample expansion device in his plant or at an independent test facility. Allow inspectors free access to the necessary parts of the manufacturer's plant and test facility and cooperate with the Inspector.

447.2 Materials

Ensure that materials meet the following requirements:

MATERIAL	SPECIFICATION
Structural Steel (except center beams, edge beams and support bars)	ASTM A 709 Gr 36 (A 709 Gr 250)
Center Beams, Edge Beams and Support Bars	ASTM A 709 Gr 50 (A 709 Gr 345) or ASTM A 709 Gr 50W (A 709 Gr 345W)
Headed Studs	ASTM A 108
Premolded Seals, Lubricant, Adhesive, and Sliding Surfaces	As per manufacturer's current literature and recommendations
Stainless Steel Bearing Surfaces	ASTM A 167 or A 240M/A 240, Type 304

447.2.01 Delivery, Storage, and Handling

General Provisions 101 through 150.

447.3 Construction Requirements

447.3.01 Personnel

Ensure that the manufacturer provides an experienced representative familiar with the installation of the expansion device to be present at all times while the expansion device is being installed. Notify the expansion device manufacturer of the scheduled installation a minimum of two (2) weeks prior to the installation date.

447.3.02 Fabrication

A. Modular Unit

1. Use a device consisting of premolded elastomeric expansion joint strip seals mechanically held in place by steel center beams and edge beams. Box seals will not be permitted. Ensure that the components meet the following requirements:
   - Each transverse center beam is a one-piece monolithic shape individually supported by, and welded to, an independent support bar.
   - Edge beams that are a minimum of 4 ¾ inches (120 mm) in height and have a machined or extruded retainer shape.
   - Securely anchored into concrete.
   - Support bars supported by sliding elastomeric bearings.
   - Provide equal-distance control of the premolded elastomeric seals.
2. Paint or galvanize all structural steel not in contact with elastomers or embedded in concrete in accordance with Section 501. Either painting or galvanizing may be used, unless noted otherwise on the plans. Galvanize (do not paint) portions of structural steel in contact with elastomeric seals or embedded in concrete. Shop apply all paint coats.

B. Center Beams and Support Bars

Design center beams, support bars, and their connections to satisfy the applicable requirements of the current edition of AASHTO Standard Specifications for Highway Bridges. In addition, design center beams and support bars to satisfy the minimum criteria:

- The maximum spacing of the support bars connected to a center beam is 4.0 feet (1.22 m) along the center beam.
- The minimum area of the center beam is 4.9 square inches (645 mm^2).
- Minimum section modulus about the horizontal axis for the bottom fiber of a center beam is 5.9 cubic inches (96 684mm^3).
- For the support bar, the minimum area (A) and minimum section modulus, about the horizontal axis for the top fiber (S), is as follows:

	Rated Movement (inches/millimeters)						
	0-6/150	0-9/230	0-12/305	0-15/380	0-18/460	0-21/535	0-21/610
A (in^2/mm^2)	5.1/3290	6.2/4010	7.0/4516	7.7/4968	8.5/5484	9.1/5871	9.7/6258
S (in^3/mm^3)	2.9/47 522	4.2/68 826	5.5/90 129	6.7/109 793	8.0/131 097	9.3/152 400	10.4/170 426

- Ensure that the center beams and support bars are sufficiently detailed in the shop drawings so that the above minimum section properties can be independently verified using the information contained in the shop drawings.

447.3.03 Construction

Install the modular expansion joint device in strict accordance with the manufacturer's written instructions, the advice of their representative, and these specifications. Ensure that the permanently installed expansion joint device matches the finished roadway profile and grade.

Immediately prior to installation, have the Engineer inspect the expansion joint device for proper alignment, and complete bond between the premolded elastomeric seals and the steel, and proper stud placement and constructability. Bond any

premolded elastomeric seals not fully bonded to the steel. Ensure that all bolted connections are checked and tightened if found to be loose.

Do not allow any bends or kinks in the expansion joint steel (except as necessary to follow the roadway grades). Straightening of bends or kinks will not be allowed. Remove any expansion joint device exhibiting bends or kinks from the work site, and replace it with a new expansion device.

Ensure that the manufacturer presets the expansion joint device prior to shipment. Preset the joint opening at 70° F (21° C) or as indicated on the plans. Remove any mechanical devices supplied to set the expansion joint to the proper width following final adjustment for temperature.

Inspect the concrete anchorages visually and give each one a light blow with a 4 lb (18 N) hammer. Replace any anchorage which does not have a complete weld or does not emit a ringing sound when struck with a light blow of the hammer.

Weld stainless steel sheet to the support member. Adhesive will not be allowed.

Anchor the expansion device as shown on the plans or as shown on the shop drawings approved by the Engineer. Where support bar boxes interfere with the edge beam anchorage method, weld the edge beam to the support bar boxes. For portions of the support bar boxes embedded in concrete, weld all plate connections perimeter in a manner that will prevent water or mortar from entering the box.

Accurately set and securely support the expansion device at the correct grade and elevation, and the correct joint opening as shown on the plans and on the shop drawings. If the maximum time between setting the joint opening and placing concrete exceeds four hours, check and adjust the opening as necessary.

Measure the structure temperature by recording the surface temperature of the concrete and/or steel with a surface thermometer as described below.

1. Concrete bridges: Record the temperature of the underside of the concrete slab a each end of the superstructure element adjacent to the expansion joint. Take the average of the readings to use with the temperature adjustment shown on the plans or on the approved shop drawings.
2. Steel bridges: Record the concrete slab temperature as described above. In addition, record the surface temperature of the shaded portion of the girder web at each location. Average the readings of the steel and concrete to use with the temperature adjustment.

Blast clean all non-galvanized metal surfaces that come in contact with the premolded elastomeric seal and lubricant adhesive in accordance with the requirements of Steel Structures Painting Council Surface Preparation Specification No. 6 (SSPC-SP6, Commercial Blast Cleaning).

Protect the cleaned metal surfaces from rusting until the premolded elastomeric seal and lubricant adhesive are placed against the metal surface. Reclean any previously cleaned metal on which rusting appears in a accordance with the foregoing.

In order to perform the work of installing the expansion joint device in a proper manner, some portions of the barrier and bridge deck cannot be constructed until after the expansion joint is installed. After the modular expansion joint device has been set to its final line and grade, fill recess openings in the deck and barrier with concrete (Class AA).

447.3.04 Quality Acceptance

A. Fatigue Testing

Perform fatigue testing by an independent testing laboratory on multiple spans of one or more full-size center beams. Test the same support and connections of the center beams and support bars as for the designed unit. Apply a simultaneous horizontal load, equal to a minimum of 20% of the vertical load. Perform the fatigue testing in accordance with the manufacturer's recommendations and approved procedures.

B. Watertight Integrity

After the expansion joint device has been permanently installed, test the full length of the device for watertight integrity. Use a method satisfactory to the Engineer.

Cover the entire joint system with water, either ponded or flowing, for a minimum duration of 15 minutes. Inspect the concrete surfaces under the joint during this 15 minute period and also for a minimum of 45 minutes after the supply of water has stopped, for any evidence of dripping water on any surface on the underside of the joint. Patches of moisture are not a cause for non-acceptance.

If the joint system exhibits evidence of water leakage at any place whatsoever, locate the leakage and take measures to correct the leakage as approved by the Engineer. Subsequent to corrective measures, perform the watertightness integrity test subject to the same conditions as the original test.

The words “permanently installed” as used above include completion of the portions of the barrier and deck that cannot be constructed until after the expansion device installed. This applies even though this workis to be paid for under other contract items.

C. Contractor Certification

Provide written certification to the Engineer that the expansion joint device was installed in accordance with the manufacturer’s instructions, the advice of their representative, and these specifications. Also, provide in writing any certification from the joint manufacturer’s representative

447.4 Measurement

Bridge expansion device will be measured as a unit, completely installed and accepted.

The words “completely installed” mean that the expansion joint device is in place with concrete placed and finished, and that the watertight integrity test has been successfully performed.

447.5 Payment

Each expansion joint device will be paid for at the Contract Price per each, complete in place. Payment will be full compensation for all work necessary to furnish, test, and install a modular expansion device, steel angles, concrete anchorages, placing and finishing concrete in block-outs.

Payment will be made under;

Item No. 447-1050 Modular Expansion Joint, Br No - , Bt No - ……. per each

Date: February 4, 2013
Revised: December 29, 2015

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

SPECIAL PROVISION

PROJECT No:
P.I. No: 0015524

SECTION 449 – Bridge Deck Joint Seals

Delete Subsection 449.1 and substitute the following:

This work consists of furnishing and installing bridge deck joint sealing systems at the locations shown on the Plans.

These bridge deck joint sealing systems consist of a joint seal and may include concrete headers. Use a joint seal material as shown in the plans and conforms to the following:

- A preformed elastomeric neoprene profile seal, or
- A preformed silicone joint seal, or
- A low-density, closed cell, cross-linked, ethylene vinyl acetate, polyethylene copolymer, nitrogen-blown seal.

Use either epoxy concrete or elastomeric concrete for header material when called for in the plans. Mix and use elastomeric and epoxy concrete material according to the manufacturer's guidelines.

Add the following to Subsection 449.2:

J. Performed Silicone Joint Seal

- The preformed silicone joint seal shall as a minimum:
- Be held in place by a non-sag, high modulus silicone adhesive.
- Be compatible with epoxy and elastomeric concrete header material and steel headers (if required).
- Withstand the effects of vertical and lateral movements, skew movements and rotational movement without adhesive or cohesive failure.
- The depth of the joint shall be recessed below the riding surface throughout the normal limits of joint movement.
- Resistant to ultraviolet rays
- Resistant to abrasion, oxidation, oils, gasoline, salt, and other materials that may be spilled on or applied to the surface.

Ensure the joint meets the following physical properties:

Test	Requirements	Test Method
Hardness Type A durometer	53 ± 5	ASTM D 2240
Tensile Strength (min)	550 psi (3.8 Mpa)	ASTM D 412
Elongation at break (min)	350%	ASTM D 412
Tear Strength (min)	80 lb/in (92 kg/cm)	ASTM D 624
Compression set (max)	30% at 350o F	ASTM D 395
Operating temp range (min)	-60° F to 450° F (51° C to 232° C)	

The adhesive shall also have the following properties:

Test	Requirements	Test Method
Sag/flow (max)	3/16" (4.8 mm)	ASTM C 639
Hardness	23 ± 3	ASTM C 661
Tack free time (max)	30 minutes	ASTM C 679
Skin over time (tooling Time) (max)	5 minutes	AT 75° F/50% RH
Cure through to ¼" thickness (max)	16 hours	AT 75° F/50% RH
Resistance to UV	No Degradation	ASTM C 793
Peel Adhesion to substrates (min)	50 lb/in (58kg/cm)	ASTM C 794

Delete Subsection 449.3.03.A.2 and substitute the following:

1. **Preparation for Joint Seal**:

   Remove loose, eroded, and unsound concrete from the surface within the joint area. Immediately before placing the seal, sandblast the concrete surfaces or abrade free of oil, dust, dirt, traces of asphaltic concrete, or other contaminants. Saw-cutting of the existing concrete deck maybe necessary to provide an acceptable attachment surface for the joint seal.

Add the following to Subsection 449.3.05:

H. Preformed Silicone Joint Seal

1. When epoxy or elastomeric concrete headers are installed and have cured in accordance with manufacture's recommendations, remove the temporary joint filler (when called for) and thoroughly clean the joint faces of all joint filler.
2. Lightly sandblast the joint to remove all residue. Prior to installation ensure surfaces are completely dry and all recommendations of the manufacture have been completed.
3. Clean the seal prior to installation by wiping it down with a cloth saturated with denatured alcohol.
4. Apply a 3/8" thick bead of adhesive along both sides of the joint at the depth recommended by the manufacture.
5. Position the joint seal to the proper depth as recommended by the manufacture.
6. Apply a bead of adhesive along the top side of the joint on each side as recommended by the manufacture.
7. Tool the adhesive twice to insure complete contact with the vertical edge.

Add the following to Subsection 449.5:

Item No. 449	Preformed Silicone Joint Seal, Br No - ____	Per Linear Foot (meter)

August 10, 2015

Georgia Department of Transportation

State of Georgia

Special Provision

PROJECT NO.:

P.I. NO.: 0015524

Section 500—Concrete Structures

Delete Subsection 500.1 and substitute the following:

This work consists of manufacturing and using High Performance Portland cement concrete to construct precast-prestressed concrete bridge members as shown in the plans and using normal weight Portland cement concrete to construct structures as shown in the Plans.

Add the following to Subsection 500.1.02.A:

Section 831—Admixtures

Add the following to Subsection 500.1.02.B:

AASHTO T 277

Add the following to Subsection 500.1.03.A:

High Performance Concrete Mix Designs

The Fabricator is responsible for all concrete mix designs. Ensure that concrete mixes contain enough cement to produce workability within the water-cement ratio specified in Table 1A—High Performance Concrete Mix Table, below.

Submit a mix design for approval to the Office of Materials and Research. Include the sources and actual quantity of each ingredient and laboratory results that demonstrate the ability of the design to attain both the required compressive strength and chloride permeability at 56 days.

Include laboratory compressive strength test results of at least eight test cylinders prepared and cured according to AASHTO T 126. Ensure these test cylinders are made from two or more separate batches with an equal number of cylinders made from each batch.

Also include laboratory chloride permeability test results of at least two test specimens prepared and tested according to AASHTO T 277. Ensure these test specimens are made from two or more separate batches with an equal number of specimens made from each batch.

Table 1A—High Performance Concrete Mix Table

English									
Class of Concrete	**Coarse Aggregate Size No.**	**(1) Minimum Cement Factor (lbs/yd^3)**	**Maximum Water/ Cement ratio (lbs/lbs)**	**(2) Slump Acceptance Limits (in) Lower-Upper**		**Entrained Air Acceptance Limits (%) Lower-Upper**		**(3) Minimum Compressive Strength at 56 days (psi)**	**Maximum Chloride Permeability at 56 days (Coulombs)**
"AAA HPC"	67	650	.330	2	7	3.5	6.5	Beams – As shown on the Plans Piling – 5000	Beams – 3,000 Piling – 2,000
Metric									
Class of Concrete	**Coarse Aggregate Size No.**	**(1) Minimum Cement Factor (kg/m^3)**	**Maximum Water/ Cement ratio (kg/kg)**	**(2) Slump acceptance Limits (mm) Lower-Upper**		**Entrained Air Acceptance Limits (%) Lower-Upper**		**(3) Minimum Compressive Strength at 56 days (MPa)**	**Maximum Chloride Permeability At 56 days (Coulombs)**
"AAA HPC"	67	386	.330	50	180	3.5	6.5	Beams – As shown on the Plans Piling – 35	Beams – 3,000 Piling – 2,000

1. Determine the slump acceptance after the addition of high-range water reducer.

2. Determine the minimum compressive strength at 56 days using 4 in. diameter x 8 in. high (100 mm x 200 mm) cylinders.

Add the following to Subsection 500.2 Table 3:

Fly Ash	831.2.03.A.1
Silica Fume	831.2.03.A.4

Add the following note to Subsection 500.2 Table 3:

4. Use Type I or III Portland cement in High Performance concrete. Do not use air-entraining cement.

Add the following to Subsection 500.3.04.D.4:

f. For High Performance concrete, fly ash may be used as an additive at an addition rate not to exceed 15% of the cement by weight.

Add the following to Subsection 500.3.04.D:

6. Silica Fume

   Silica Fume may be used as an additive at an addition rate not to exceed 10% of the cement by weight.

June 19, 2012

Georgia Department of Transportation

State of Georgia

Special Provision

PROJECT NO.:

P.I. NO.: 0015524

Section 500—Concrete Structures

Add the following to Subsection 500.1:

This work consists of manufacturing and using Portland cement concrete with lightweight aggregate to construct structures as shown in the Plans.

Add the following to Subsection 500.1.02.B

ASTM C 567

AASHTO T 96

AASHTO T 104

AASHTO M 195

AASHTO T 196

GDT 32

Add the following to Subsection 500.3.01:

C. ACI Concrete Technician

Provide a GDOT certified ACI Concrete Technician, from an independent GDOT prequalified consultant firm, which is certified to perform Field Testing of Roadway Construction Materials.

Add the following to Subsection 500.3.04.F.1:

f. Lightweight Concrete—Concrete composed of a mixture of cementitious material, normal weight fine aggregate, lightweight coarse aggregate conforming to AASHTO M 195, water and admixtures. All structural lightweight concrete will have a maximum equilibrium density of 115 lbs/ft3 (1840 kg/m3) as determined by ASTM C 567.

g. Lightweight concrete will comply with the applicable requirements of Section 500 of the Standard Specifications. Use GDT 32 or AASHTO T 196 to determine air content of structural lightweight concrete.

Use lightweight coarse aggregate from an approved source or stockpile meeting the requirements of AASHTO M 195 and the Sulfate Soundness (AASHTO T 104) and Los Angeles Abrasion (AASHTO T 96) requirements of Section 800.2. Nominal sizes of lightweight coarse aggregates are as specified in AASHTO M 195 as 3/4, 1/2 or 3/8 in. (19.0, 12.5 or 9.5 mm).

The use of lightweight aggregate in concrete in a particular component of a structure will be shown on the Plans or called for in the specifications.

Add the following to Subsection 500.3.06:

F. Air Content Testing of Structural Lightweight Concrete

Provide testing of structural lightweight concrete per Subsection 500.3.04.F.1.g, and in accordance with test frequencies outlined in the Sampling, Testing and Inspection Quick Guide. Perform air content by a technician meeting the requirements of Subsection 500.3.01.C and who is approved by the Engineer. Submit test results to the Engineer. No separate measurement for payment will be made for testing of structural lightweight concrete.

MATERIALS AND RESEARCH

Department of Transportation

State of Georgia

Special Provision

PROJECT NO.:

P.I. NO.: 0015524

Section 500—Concrete Structures

Add the following to 500.1.03.A:

The Contractor is responsible for all concrete mix designs. Submit a mix design for approval to the Office of Materials and Research. Include the sources, actual quantity of each ingredient, design slump, design air and laboratory results that demonstrate the ability of the design to attain the required compressive strength at 28 days.

Prepare and test at least 8 cylinders according to ASTM C192 and AASHTO T22 to ensure that the demonstrated laboratory compressive strength at 28 days exceeds the minimum acceptance strength (X). Make the specimens from two or more separate batches with an equal number of cylinders made from each batch. The minimum acceptance strength is:

$$X = f'c + 500 \text{ psi } (X = f'c + 3.4 \text{ MPa})$$

Where, f'c is the required minimum compressive strength at 28 days for Class D concrete as shown in Table 1–Concrete Mix Table.

Add the following to Table 1—Concrete Mix Table:

Table 1—Concrete Mix Table

English								
Class of Concrete	**(2) Coarse Aggregate Size No.**	**(1 & 6) Minimum Cement Factor lbs/yd³**	**Max Water/ Cement Ratio lbs/lbs**	**(5) Slump Acceptance Limits (in) Lower - Upper**		**(3 & 7) Entrained Air Acceptance Limits (%) Lower - Upper**		**Minimum Compressive Strength at 28 days (psi)**
Class D	**57,67**	**650**	**0.445**	**2**	**4**	**3.5**	**7.0**	**4000**
Metric								
Class of Concrete	**(2) Coarse Aggregate Size No.**	**(1 & 6) Minimum Cement Factor kg/m³**	**Max Water/ Cement Ratio kg/kg**	**(5) Slump Acceptance Limits (mm) Lower - Upper**		**(3 & 7) Entrained Air Acceptance Limits (%) Lower - Upper**		**Minimum Compressive Strength at 28 days (MPa)**
Class D	**57,67**	**386**	**0.445**	**50**	**100**	**3.5**	**7.0**	**28**

Delete Subsection 500.3.04.F.1.b

Add the following to Subsection 500.3.04.F.1:

f. Class D—Bridge superstructure concrete or as called for on the Plans

March 11, 2016

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA
SPECIAL PROVISION

PROJECT NO.:

P.I. NO.: 0015524

Section 500—Concrete Structures

Add the following to Subsection 500.1.02:

B. Referenced Documents

"Guide to Mass Concrete", ACI 207.1R-05.

"Report on Thermal and Volume Change Effects on Cracking of Mass Concrete", ACI 207.2R-07.

"Cooling and Insulating Systems for Mass Concrete", ACI 207.4R-05.

"Standard Practice for Selecting Proportions for Normal, Heavyweight, and Mass Concrete", ACI 211.1-91

"Control of Cracking Concrete Structures", ACI 224R-01.

"Specification of Structural Concrete", Section 8, ACI 301-10.

"Compressive Strength of Cylindrical Concrete Specimens", AASHTO T 22-10

"Making and Curing Concrete Test Specimens in the Laboratory", ASTM C192

Add the following to Subsection 500.3.05:

AM. Mass Concrete

Mass concrete is defined as "Any large volume of concrete with dimensions large enough to require that measures be taken to cope with the generation of heat and attendant volume change to minimize cracking". Any concrete element with a least plan dimension greater than 5ft (or greater than 6 ft diameter for a drilled shaft) shall be designated as mass concrete and will use this specification. To account for variability in as-built dimension versus plan dimension, such as telescoping casing during construction, any concrete element with a least as-built dimension greater than 5 ½ ft (or great than 6 ½ ft diameter for a drilled shaft) shall be designated as mass concrete and use this specification. The introduction of a construction joint at a dimension less than 5 ft does not ensure that the maximum temperature attained by or the differential temperature in concrete is adequately controlled. Proposals for large volume concrete shall thus be evaluated based on the heat development and a Thermal Control Plan.

a. Temperature Specifications for Mass Concrete

Mass concrete shall conform to the concrete acceptance criteria and the following temperature requirements to prevent delayed ettringite formation (DEF) and thermally induced stress cracks:

1. The maximum allowable internal temperature of mass concrete meeting the requirements of Subsection 500.3.05.AM.b.1, shall not exceed 158 °F.

2. The maximum temperature differential between interior and exterior portions of the designated mass concrete element shall not exceed 35 °F.

3. The maximum temperature of the concrete when delivered and prior to placement shall be 85 °F.

b. Materials Selection and Mix Design Development

Materials used for mass concrete shall conform to the provisions in Section 500-Concrete Structures of GDOT *Standard Specifications-Construction of Transportation Systems* and the following requirements. When in conflict, materials shall conform to the special provisions below rather than those in Section 500.

1. Use Class F fly ash (no Class C fly ash is allowed), granulated iron blast-furnace slag or other pozzolans, if approved by the Department in all mass concrete. Slag may comprise no more than 75% by mass of total cementitious and pozzolanous materials. Class F fly ash may comprise no more than 40% by mass of total cementitious and pozzolanous materials. When a combination of multiple different pozzolans is used, the total amount may be no more than 75% by mass of total cementitious and pozzolanous materials.

2. High-early-strength (ASTM C150 Type III or ASTM C1157 HE) cement, metakaolin, silica fume calcium chloride and accelerating type admixtures shall not be used unless an adiabatic temperature study is completed showing temperature rise significantly less than that of plain unmodified concrete.

3. A retarding admixture, pretested with the job materials under job conditions, may be permitted to prevent cold joints due to the quantity of concrete placed, as approved by the Engineer.

4. Coarse aggregate larger than #5 stone maximum size aggregate is permitted to be used for mass concrete, if approved by the Engineer.

5. Other materials and/or mix designs may be proposed to the Engineer for approval, with documentation that the proposed mix designs meet temperature specifications from Subsection 500.3.05.AM.a for mass concrete.

6. Laboratory-designed mix proportions of materials are permitted for commonly used combinations of materials. Request these mixes in writing from the State Materials Engineer specifying the class of concrete and the source of ingredients.
7. Degree of Alkali-Silica Reactivity (ASR) of either fine or coarse aggregate is determined by testing the aggregates in ASTM C1260, or ASTM C1567 (either expansion shall be less than 0.10% after 14 days immersion). Unless the results of petrography indicate a significant change in the composition of materials in quarries, ASTM 1293 (expansion <0.04% at 1 year) is not required to be conducted, before a mix design can be approved by the Engineer. Alternatively obtain low ARS risk aggregate materials from certified suppliers.
8. The mixture will be capable of demonstrating a laboratory compressive strength at 28 days meeting the requirements of Table 1 – Concrete Mix Table, *Subsection 500.1.03.A.* Compressive strength will be determined based upon result of six cylinders prepared and tested in accordance with AASHTO T 22 and ASTM C192.

c. Thermal Control Plan

At least 30 calendar days prior to placing any concrete defined as mass concrete, the contractor shall submit to the Engineer for approval a Thermal Control Plan (TCP). The TCP shall show complete analysis of the anticipated thermal developments in the mass concrete elements for all expected project temperature ranges using the proposed mix design, casting procedures and materials. A primary focus of the TCP is actions to take when any of the temperature controls noted in Subsection 500.3.05.AM are exceeded or are anticipated to be exceeded. As a minimum, the TCP shall include details about the following:

1. Concrete mix design showing composition, proportions, and sources for all components.
2. Proposed methods to control concrete temperature at time of placement, such as pre-cooling of raw materials or concrete.
3. Duration and method of curing.
4. Calculations of maximum concrete temperatures for the range of expected air, water (for underwater construction) and concrete temperatures.
5. Proposed methods to control maximum temperature during curing. A mechanical cooling system may be used to control the internal temperature of mass concrete during curing but shall be designed in conformance with the Thermal Control Plan. If a mechanical cooling system is used, the plans for the cooling system operation and final grouting after cooling shall be submitted to the Engineer for approval.
6. When the maximum concrete temperature nears 140 °F, notify the Engineer and take corrective measures immediately to retard further increase in the temperature to limit it to the 158 °F maximum. Utilize the mechanical cooling system, if installed, to lower the overall temperature. Other active measures may include, but not limited to

for any further pours: chilled water for mixing, precooling aggregate stockpiles, ice for mixing water, nitrogen gas, and shade for aggregate stockpiles. Cease placement of concrete until the maximum temperature has been lowered.

7. Proposed methods to control temperature differentials during curing that could include insulation for the forms and exposed portions of concrete. Contractor must take actions that prevent the exterior surfaces of the concrete from getting too cool, too quickly such as using insulation or heater or by preventing the core from getting too hot.

8. When the internal concrete temperature differential between interior and exterior concrete nears 30°F, notify the Engineer and take corrective measures immediately to retard further increase in the temperature differential to limit it to the 35°F maximum. Utilize the mechanical cooling system, if being use, to lower the internal temperature. Other active measures may include, but not limited to: chilled water for mixing, precooling aggregate stockpiles, ice for mixing water, nitrogen gas, and shade for aggregate stockpiles. Cease placement of concrete until the temperature differential has been lowered.

9. Calculations of maximum temperature gradients within each concrete element during curing. Calculations shall include maximum possible temperature induced tensile stress in the concrete in addition to tensile stresses at 1 day, 3 days, 7 days, 28 days, and 56 days after placement. The thermal calculation model and/or computational software shall be submitted to the Engineer for approval.

10. Temperature monitoring and recording system, that shall consist of temperature sensors connected to a data acquisition system. The temperature sensor types and locations shall be specified.

11. Results of strength tests of sample cylinders. The concrete shall attain the specified strength at an age (28 or 56 days) as specified by the Engineer. Match curing of concrete is required. Match curing shall be conducted according to temperature history obtained using thermocouples typically 4 inches from surface and at the centroid of the concrete pour. The depth of the thermocouple may need to be established by the depth of rebar or other anchoring structure (See Subsection 500.3.05.AM.d.3 and Subsection 500.3.05.AM.d.5).

12. For all mass concrete construction, the TCP shall be developed by a Professional Engineer, licensed in the State of Georgia, who shall be competent in the modeling, design, and temperature control of mass concrete with at least three mass concrete projects experience that can be verified by the Department.

Place no concrete until the mass concrete mix design and the proposed TCP is reviewed and approved by the Engineer. If concrete design mixture is changed, the TCP must be updated and approved by the Engineer.

d. Temperature Monitoring and Recording System

1. Install within the concrete placed in each mass pour and in the surrounding environment of the concrete, temperature sensing devices (thermocouples) of a type approved by and at locations based on the plan approved by the Engineer.

2. The sensing system will contain as a minimum two independent sets of sensing devices in order to assure readings if one of the systems fail. The sensing devices shall be accurate to within 2°F range.
3. Thermocouples shall be placed at the centroid of the pour, or wherever the point of expected maximum temperature is anticipated. Additional thermocouples shall be placed on the exterior to monitor the maximum temperature differential. Ensure the thermocouples are placed at a depth of 2 to 6 inches below the surface.
4. The temperature monitoring and recording system for mass concrete shall consist of temperature sensors connected to a data acquisition system capable of printing, storing, and downloading data to a computer. Data shall be printed and submitted to the Engineer daily with a copy sent to Office of Materials and Testing.
5. Two independent sets of sensing devices shall be placed at each of the following locations and readings to be taken hourly: (1) center of the mass pour; (2) midpoint of the side which is the shortest distance from the center; (3) midpoint of the top surface; (4) midpoint of the bottom surface; and (5) corner of the mass pour which is furthest distance from the center. Ensure the thermocouples are placed at a depth of 2 to 6 inches below the surface.

e. Placing and Curing Mass Concrete

When placing and curing mass concrete do the following:

1. Maintain a temperature differential of 35 °F or less between the interior and exterior portions of the designated mass elements.
2. Monitor and maintain records of the concrete temperature, beginning with casting and continuing until the maximum temperature is reached and begins decreasing to a differential of no more than 35°F from the mean annual ambient temperature of the surrounding environment, for three consecutive days.
3. The contractor shall suggest consolidation techniques based on the placement technique to be used for mass concrete. The consolidation technique shall be reviewed and approved by the Engineer before start of placement of mass concrete. Slump tests or slump-flow (ASTM C 1611) tests, as applicable, shall be used to provide quality control from batch to batch.
4. Maintain a minimum concrete placement rate of 30 cubic yards per hour or as designated on the plans or in the Special Provisions. Any requested change from this placement rate is to be approved by the Engineer.

f. Acceptance

Mass concrete shall conform to the concrete acceptance criteria and the temperature requirements as stated earlier to prevent delayed ettringite formation (DEF) and thermally induced stress cracks.

If the Contractor fails to conform to any of the above temperature requirements in any one pour, any additional mass concrete pours will cease. The Engineer may, at its sole discretion, direct that the concrete be removed or otherwise mitigated, at no cost to the Department. The contractor shall revise the Thermal Control Plan and design calculations to correct the problem and resubmit the revised Thermal Control Plan. Mass concrete placement shall not begin until the Engineer has approved the revised Thermal Control Plan. No extension of time or compensation will be made for any rejected mass concrete element or revisions of the Thermal Control Plan.

Office of Materials and Testing

Date: June 5, 2015
First Use Date: August 1, 2013

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA
SPECIAL PROVISION

PROJECT NO.

P.I. NO. 0015524

Section 511 – Reinforcement Steel

Add the following to 511.2 Materials, B. Fabrication:

2. **Reinforcement Steel Couplers.** When couplers are indicated on the Plans, use mechanical butt splices from an approved source listed on QPL 93.

   Provide mechanical butt splices which develop a minimum of 125% of the guaranteed yield strength of the reinforcing steel to be spliced. Limit the total slip of the reinforcing bars within the splice sleeve after loading to 30 kips per square inch (207 MPa) and relaxing to 3 kips per square inch (21 MPa) to no more than the following, as measured between gauge points clear of the splice sleeve: 0.010 of an inch (.25mm) for reinforcing bars no. 14 (43) or smaller, or 0.030 of an inch (.76mm) for reinforcing bars no. 18 (57).

   Prior to installation on GDOT projects, the contractor is required to submit job-control samples for testing to the Office of Materials and Testing. This is to ensure that the installer is qualified to construct the units. Make test specimens in the presence of the Engineer or his authorized representative using reinforcing steel consigned for the work. A test specimen consists of a splice made at the job site to connect two 24 inch (600mm) or longer bars using the same splice materials, position, location, and equipment, and following the same procedures to be used to make splices in the work. Prior to incorporating couplers into the work, make and test three specimens that meet the above criteria.

   Perform all testing required above by the Office of Materials and Testing or at a testing laboratory approved by the Department.

   If threaded couplers are used, equip them with approved devices which will prevent rotation after installation.

   After installation, clean all couplers with a power wire brush or by other approved methods and recoat the couplers with a material prepared and recommended by the coating manufacturer.

   Install the couplers in strict accordance with the manufacturer's instructions and as approved by the Engineer.

   All costs for the couplers, test samples (including reinforcing steel for tests) and testing of couplers shall be included in the costs of reinforcing steel.

Georgia Department of Transportation

State of Georgia

Special Provision

PROJECT NO.:

P.I. NO.: 0015524

Section 865—Manufacture of Prestressed Concrete Bridge Members

Delete Subsection 865.1 and substitute the following:

This section includes the following requirements for precast-prestressed concrete bridge members and piling using High Performance Portland cement concrete as shown in the Plans:

- Manufacturing
- Inspecting
- Testing
- Marking
- Painting
- Rubbing as specified
- Plant handling
- Storing
- Shipping

The term "precast-prestressed concrete" is referred to as "prestressed concrete" in the rest of this Section.

Add the following to Subsection 865.2:

Material	Section
Concrete, Class AAA HPC	500

Add the following to the end of Subsection 865.2.01.B.7.a.6:

Optional Method of Curing for Release Strengths with HPC: Temperature match curing ("Sure Cure" or equivalent methods) is allowed for specimens used to determine when stress may be transferred to the concrete for High Performance Concrete Units.

Georgia Department of Transportation

Technical Provisions

For

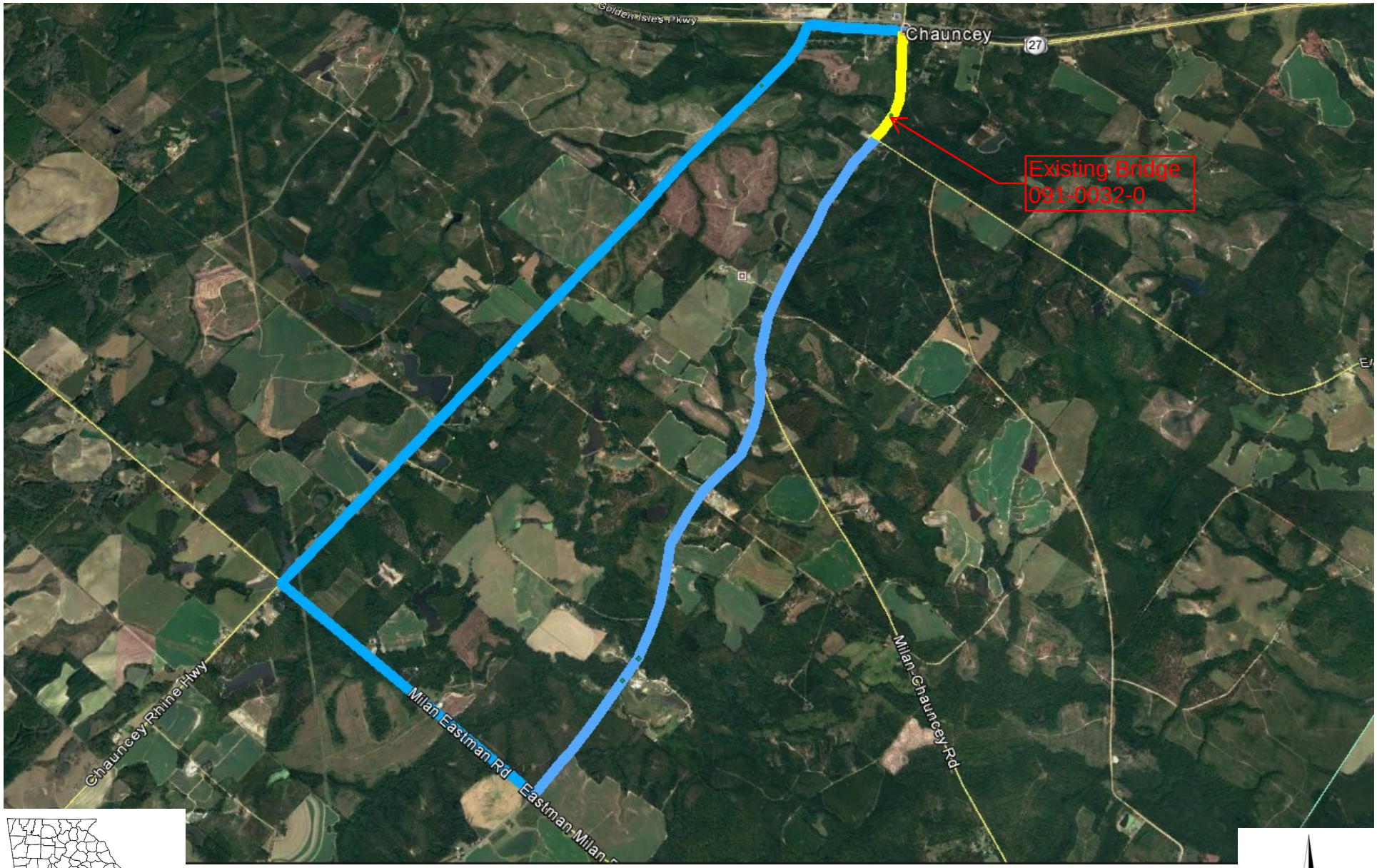
Design-Build Agreement

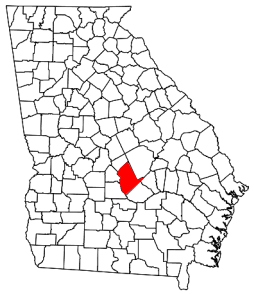
P.I. No. 0015524

FY 17 Bridge Replacement Project

Attachment 18-1

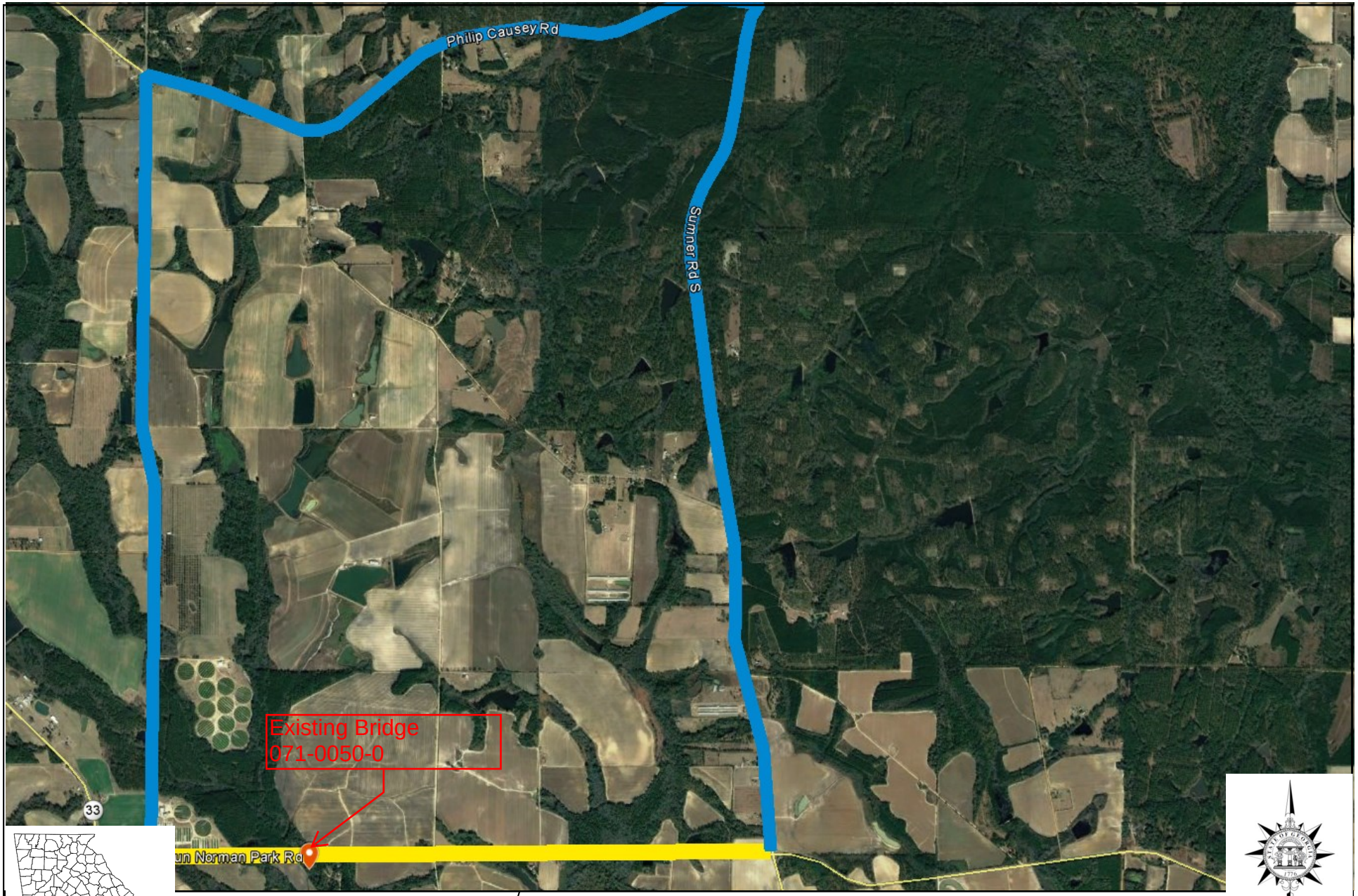
DETOUR MAPS





LOCATION MAP
DODGE COUNTY

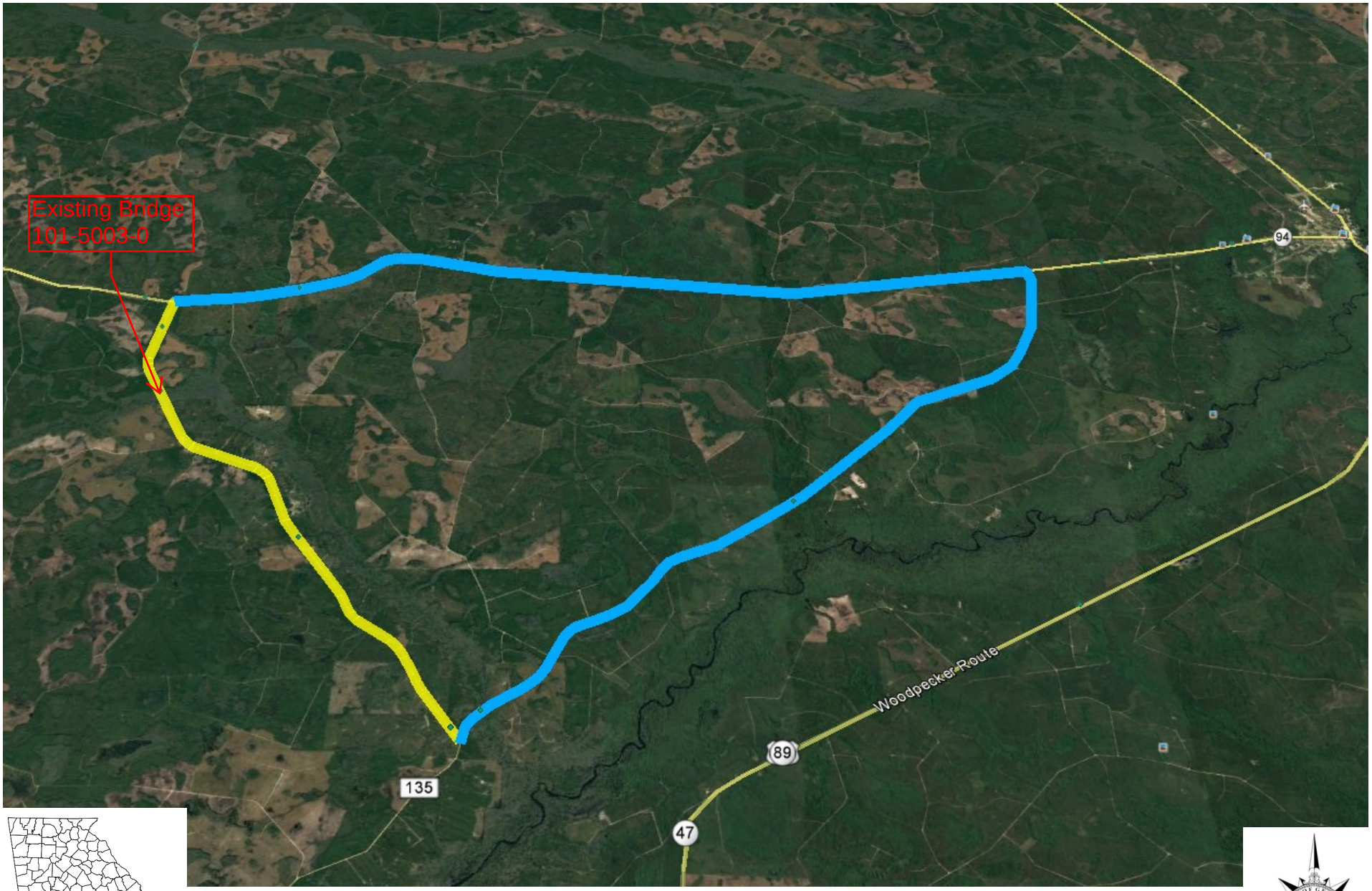
MILAN-CHAUNCY ROAD OVER SUGAR CREEK
EXISTING BRIDGE SERIAL NUMBER 091-0032-0

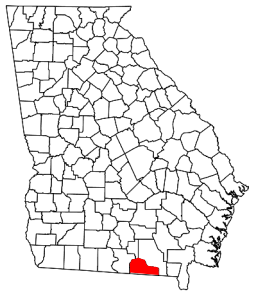


DETOUR MAP

COLQUITT COUNTY

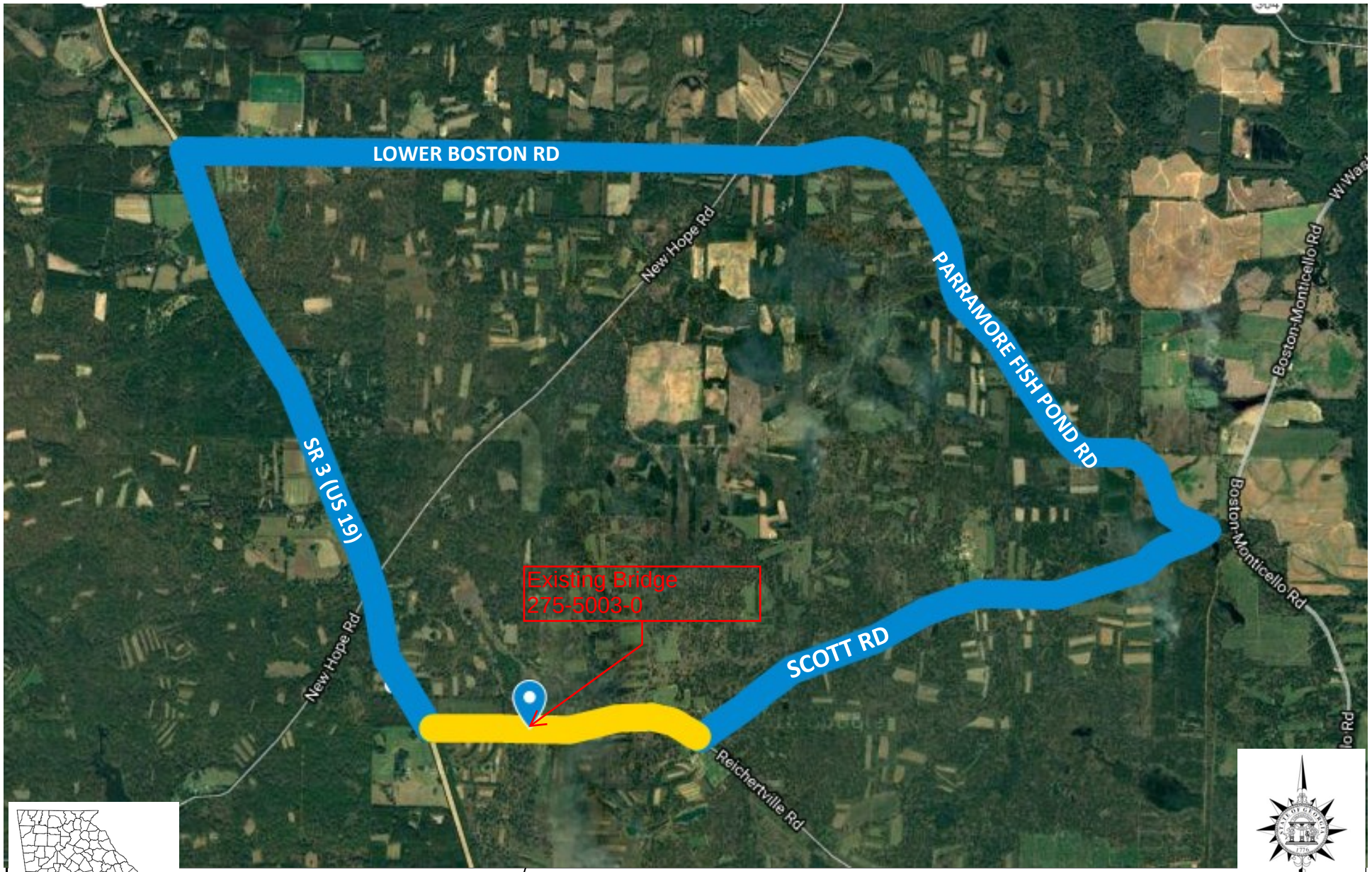
DOERUN-NORMAN PARK ROAD AT OKAPILCO CREEK
EXISTING BRIDGE SERIAL NUMBER 071-0050-0





LOCATION MAP
ECHOLS COUNTY

TOMS CREEK ROAD OVER TOMS CREEK
EXISTING BRIDGE SERIAL NUMBER 101-5003-0



DETOUR MAP

THOMAS COUNTY

RICHERTVILLE ROAD AT MCKEEVER SLOUGH CREEK
EXISTING BRIDGE SERIAL NUMBER 275-5003-0

Georgia Department of Transportation

Technical Provisions

For

Design-Build Agreement

P.I. No. 0015524

FY 17 Bridge Replacement Project

Attachment 18-2

SPECIAL PROVISION 150.03.O

YOUR DOLLARS BUILDING A BETTER GEORGIA LOGO SIGNS

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

SPECIAL PROVISION

Section 150 – Traffic Control

Add to Section 150.03 the following:

150.03.O Your Dollars Building A Better Georgia Signs

Your Dollars Building A Better Georgia Logo Signs

The Department will provide to the Contractor, two (2) "Your Dollars Building A Better Georgia Logo" signs per bridge either 24" X 36" or 36" X 48". The signs shall be installed by the Contractor on each end of the Project, prior to beginning The Work. The signs shall be removed by the Contractor when the Contract Time Charges are stopped by the Department. Upon removal, the signs will be returned to the Department or its Agent. The cost for installation, maintenance and removal of the signs shall be included in the overall price bid for ITEM 150-1000 Traffic Control.

Georgia Department of Transportation

VOLUME 3

Programmatic Technical Provisions For

Design-Build Agreement

FY 17 Bridge Replacement Project

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1 GENERAL

1.1 Project Scope

Refer to volume 2.

1.2 Project Description

Refer to volume 2.

1.2.1 Other Considerations

Refer to volume 2.

2 PROJECT MANAGEMENT

2.1 Project Management Requirements

The DB Team shall establish and maintain an organization that effectively manages all Elements of the Work. The DB Team shall submit the following management plans for GDOT review:

- Design Schematic of the Project (at time of Proposal Submission);
- Project Quality Management Plan (QMP), Design QMP, and Construction QMP, pursuant to Section 2.3;
- 120 Day Schedule, pursuant to Section 2.2;
- Project Baseline Schedule, pursuant to Section 2.2;
- The Public Information and Communications Plan (PICP), pursuant to Section 3;
- Demolition and Abandonment Plan, pursuant to Section 10.2;
- Landscape Enhancement Plan and Hardscape Enhancement Plan, pursuant to Section 15.2.2;
- Transportation Management Plan (TMP), pursuant to Section 18.2.1;
- Construction Maintenance Limits Plan, pursuant to Section 19.2; and
- Construction Phasing Plan and Submittals Schedule, if applicable, for each construction phase, pursuant to Section 23.1.

2.1.1 Design Quality Assurance

The DB Team shall develop an overall Quality Management Plan. The Quality Management Plan shall comprise a Design Quality Assurance (QA) Plan to include the following:

- Overall design QA process.
- Design Quality Control (QC) Plan including procedures and documentation.
- Design standards to be adhered to, including but not limited to all references listed in Volume 3 Manuals.
- Design criteria specific to the individual project.
- Procedures for preparing and checking individual plans, specifications, estimates, calculations, and other submittal items.
- Procedures for preparing and checking any unique or highly specialized designs.
- Procedures for coordinating work performed by different persons for related tasks, to ensure that conflicts, omissions, or errors do not occur between drawings or between drawings and other design documents.
- Procedures for coordinating and obtaining permits from permitting agencies, utility companies, and railroad companies, as applicable. This shall include procedures for ensuring that all permitting, utility, and railroad requirements are incorporated into the design of the project; and procedures for coordinating submittals and agency reviews such that the overall project schedule is not delayed.

- Level, frequency, and methods of review of the adequacy of the total project design. Methods by which all Final Plans shall be independently reviewed; verified for constructability, completeness, clarity, and accuracy; and back-checked.
- Level and frequency of audit and oversight design reviews (concerning QA and validity of consultant payments) to be performed by GDOT, , independent consultants, and/or other agencies (as applicable).
- Procedures for reviewing and checking design drawings and documents required during construction.
- Qualifications for all key design personnel.
- Documentation and submission procedures to ensure that the established design QA procedures have been followed.
- QA/QC statement letter is required to be submitted with all design submittals.

The design QA procedures will be part of the DB Team's Quality Management Plan to be developed and provided by the DB Team. The Quality Management Plan shall satisfy the requirements stated in the Technical Provisions.

2.1.2 Construction Quality Control / Quality Assurance

Refer to volume 2.

2.1.3 Environmental Monitoring

The DB Team shall adopt a proactive approach for overseeing and inspecting environmental Work during construction to help guard against unanticipated impacts to the environment. Unanticipated impacts to the environment can lead to fines and schedule delays. The DB Team shall be responsible for complying with the scope of environmental commitments from the Environmental Documents, including but not limited to the environmental permits and other environmental approvals.

2.1.4 Right of Way

The DB Team shall provide Right of Way plans for all Additional Properties as required in Section 7.2.

2.1.5 Safety and Security

The DB Team shall be responsible for the safety of its personnel and of the general public affected by the Project.

DB Team shall submit to GDOT for acceptance a comprehensive safety plan ("Safety Plan") that is consistent with and expands upon the preliminary safety plan submitted with the Proposal. The Safety Plan shall fully describe DB Team's policies, plans, training programs, Work Site controls, and Incident response plans to ensure the health and safety of personnel involved in the Project and the general public affected by the Project during the Term of the Agreement.

DB Team's Safety Plan shall address procedures for immediately notifying GDOT of all Incidents arising out of or in connection with the performance of the Work, whether on or adjacent to the Project.

This section shall define the requirements to be incorporated into the Project in order to ensure that the Project is a safe and secure environment for all individuals working on the Project. The prevention of accidents during execution of the project shall be a primary concern of all participants, and shall be the responsibility of all levels of management. Safety shall never be sacrificed for production, but shall be considered an integral part of an efficient and quality Project.

It is suggested that safety and security procedures include the following:

- Safety and health standards to be adhered to.
- Roles and responsibilities of the safety/security staff.
- Contractors (meaning prime contractors and subcontractors combined) having a Safety Director and an accepted safety manual (or plan) available to all employees.
- Contractors holding periodic on-site safety meetings.
- Contractors conducting periodic on-site safety inspections.
- Contractors providing safety training for all new employees, and refresher training for all employees.
- Contractors conducting drug screening for all new hires.
- Contractors establishing daily housekeeping and clean-up procedures.
- Possible employee sharing of accident prevention savings.
- Having first-aid and medical kits readily available.
- Having a site security plan, possibly including such items as restricted parking near vulnerable structures, physical barriers (fences, barricades, etc.), coordinated efforts with local law enforcement officials during heightened threat levels, video surveillance, alarm systems, emergency telephones, etc.
- Having an emergency preparedness and incident management plan, including roles and responsibilities, emergency evacuations, communications, first responder awareness training, and field drills.
- Establishment of an employee identification (ID) system.
- Level and frequency of audit and oversight safety/security reviews to be performed by GDOT, independent consultants, and/or other agencies (as applicable).
- Safety and security periodic reporting (normally monthly).

In addition, appropriate threat and vulnerability assessments shall be made and taken into consideration thought the Project's life cycle. The transportation elements of the project could have a significant impact on regional safety and security plans.

2.1.6 Traffic Management

The DB Team shall develop a Transportation Management Plan and a traffic control plan for each phase of its Work. The DB Team's Transportation Management Plan and the traffic control plans shall comply with the requirements of Section 18.

2.1.7 Project Communications (Media and Public Information)

Refer to Volume 2

2.1.8 Project Closeout

The DB Team shall adhere to GDOT Standards and Specifications 105.16 for final inspection and acceptance as would normally occur on any Design-Bid-Build project.

2.1.9 Project Phasing

The DB Team has the right to propose phasing the design and construction of the project to accelerate the schedule and provide added value. GDOT reserves the right to review, require revisions, or request additional conditions to the proposed phasing plan prior to acceptance. Each phase of the proposed plan will require a NTP. The Project Phasing may be proposed during the procurement phase or after the issuance of NTP 1.

2.1.10 Reserved

2.2 Schedule Requirements

2.2.1 General Schedule Requirements

The DB Team shall comply with the Critical Path Method (CPM) schedule requirements as defined in this Section 2.2. The DB Team shall be responsible for ensuring that all work sequences are logical and that the CPM schedule indicates a coordinated plan. The CPM schedule shall indicate the order and interdependence of activities and the sequence for accomplishing the work. The CPM schedule shall illustrate all activities that occur during the contractual life of the Project, whom is responsible for each respective activity, and the duration for each activity as set forth in the DB Documents.

The DB Team shall utilize Primavera software, specifically Primavera P6 Version 7.x or greater for the development and maintenance of all project schedules.

2.2.2 Project Baseline Schedule Requirements

DB Team shall use the Preliminary Baseline Schedule submitted with the Proposal as a foundation to prepare a Project Baseline Schedule and shall submit the Project Baseline Schedule to GDOT for review and acceptance. The schedule shall show milestones for intermediate and contract completion dates no later than those specified in the contract. All specified closure or restriction periods, non-work periods or any other time restrictions in the contract shall be incorporated in the project baseline schedule. The

Project Baseline Schedule shall be submitted no later than ninety (90) calendar days after NTP 1.

The Project Baseline Schedule shall include all major Work activities required under the DB Documents, in sufficient detail to monitor and evaluate design and construction progress, from commencement of the Work to Final Acceptance of the Work. The Project Baseline Schedule shall also include activities for the acquisition of any Proposed Right of Way (whether State Proposed/State Acquired or DB Team Proposed/DB Team Acquired), as well as for any DB Team identified Additional Properties, Utility Adjustments, permit acquisitions, and interfaces with other projects, localities, municipalities and other Governmental Entities. For each major activity, the DB Team shall indicate the duration (in Days) required to complete the activity, the anticipated start and finish date of each activity. In addition, the Project Baseline Schedule shall indicate the sequence of performing each major activity and the logical dependencies and inter-relationships between the activities.

The Project Baseline Schedule shall include a listing of all Submittals as called out in Volume 2, Section 23, other sections of the DB Documents, or as required to obtain any acceptance by GDOT or any other Government Entity. Submittal activity durations shall include specific durations for GDOT review and/or acceptance of DB Team's submittals.

Float shall be considered as a jointly owned resource available to the Project and shall not be used to the sole benefit or detriment of either GDOT or the DB Team. Any method utilized to sequester Float calculations is prohibited. Any schedule, including the Project Baseline Schedule and all updates thereto, showing an early completion date shall show the time between the scheduled completion date and the applicable Milestone Schedule Deadline as "Project Float."

The Project Baseline Schedule shall define the timeframe for completion of the Project and achievement of all contractual milestones, and be used to monitor progress and denote changes that occur during design and construction. Additional schedule requirements are as follows:

- The Project Baseline Schedule shall be organized in a Work Breakdown Structure (WBS). Each schedule activity shall be mapped to one and only one of the parent WBS activities. The Project Baseline Schedule shall include all major Work activities required under the DB Agreement. The WBS identified below shall be the basis for organizing all Work under the Contract Documents and shall be used to structure the baseline schedule. The WBS shall conform to the level of structure below, which represents the required minimum levels of the WBS that all schedule information shall rollup to. Sections listed below that are not applicable to the project should be removed at the DB Team's discretion. The DB Team has the option, should they choose, to further develop and detail the base WBS, however any modifications cannot alter or interfere with the WBS minimum requirements or ability to summarize to the required minimum WBS levels. The DB Team may add additional activities to the levels presented below

with GDOT's prior written acceptance. GDOT will provide a WBS template as a RID.

1.0 Project Name
- 1.1 Project Management
  - 1.1.1. Administration
  - 1.1.2. Bonds and Financing
  - 1.1.3. Insurance
  - 1.1.4 QA/QC
- 1.2. Design
  - 1.2.1. Environmental
    - 1.2.1.1. (By subsections determined by DB Team w/GDOT concurrence)
  - 1.2.2. Roadway
    - 1.2.2.1. (By subsections determined by DB Team w/GDOT concurrence)
  - 1.2.3. Drainage
    - 1.2.3.1. (By subsections determined by DB Team w/GDOT concurrence)
  - 1.2.4. Structures
    - 1.2.4.1. (By subsections determined by DB Team w/GDOT concurrence)
      - 1.2.4.1.1. Bridge
        - 1.2.4.1.1.1. (By Bridge No.)
      - 1.2.4.1.2. Retaining Wall/Noise Wall
        - 1.2.4.1.2.1. (By Retaining Wall/Noise Wall)
      - 1.2.4.1.3. Building
        - 1.2.4.1.3.1. (By Building)
  - 1.2.5. Railroad
    - 1.2.5.1. _____RR
    - 1.2.5.2. _____RR
  - 1.2.6. Landscape & Aesthetics
    - 1.2.6.1. (By subsections determined by DB Team w/GDOT concurrence)
  - 1.2.7. Traffic
    - 1.2.7.1. (By subsections determined by DB Team w/GDOT concurrence)
      - 1.2.7.1.1. Signing
      - 1.2.7.1.2. Traffic Signal Systems
      - 1.2.7.1.3. Roadway Illumination
  - 1.2.8. Intelligent Transportation System (ITS)
    - 1.2.8.1. (By subsections determined by DB Team w/GDOT concurrence)
  - 1.2.9. Traffic Management and Controls During Construction
    - 1.2.9.1. (By subsections determined by DB Team w/GDOT concurrence)
  - 1.2.10. Tolling
    - 1.2.10.1. (By subsections determined by DB Team w/GDOT concurrence)
  - 1.2.11. QA/QC
    - 1.2.11.1. (By subsections determined by DB Team w/GDOT concurrence)
- 1.3. Right of Way (ROW) Acquisition
  - 1.3.1. (By subsections determined by DB Team w/GDOT concurrence)
    - 1.3.1.1 (By Parcel No.)
- 1.4. Utility Adjustments

1.4.1. (By Utility Owner)
1.4.1.1. Negotiate Agreements
1.4.1.2. Locate Existing Utilities
1.4.1.3. Prepare Utility Assembly
1.4.1.4. Construct Utility Adjustment

1.5. Construction
1.5.1. Mobilization
1.5.2. Roads
1.5.2.1. (By subsections determined by DB Team w/GDOT concurrence)
1.5.2.1.1. Local Roads
1.5.2.1.1.1. Erosion Control
1.5.2.1.1.2. Earthwork
1.5.2.1.1.3. Pavement, Pvmt Markings
1.5.2.1.1.4. TCP/MOT
1.5.2.1.1.5. Other Rdwy. Appurtenances (Barriers, Guardrail, Impact Attenuators)
1.5.2.1.1.6. Fencing
1.5.2.1.2. Mainlines and Ramps
1.5.2.1.2.1. Erosion Control
1.5.2.1.2.2. Earthwork
1.5.2.1.2.3. Pavement, Pvmt Markings
1.5.2.1.2.4. TCP/MOT
1.5.2.1.2.5. Other Rdwy Appurtenances (Barriers, Guardrail, Impact Attenuators)
1.5.2.1.2.6. Fencing
1.5.2.1.3. Managed Toll Lanes
1.5.2.1.3.1. Erosion Control
1.5.2.1.3.2. Earthwork
1.5.2.1.3.3. Pavement, Pvmt Markings
1.5.2.1.3.4. TCP/MOT
1.5.2.1.3.5. Other Rdwy Appurtenances (Barriers, Guardrail, Impact Attenuators)
1.5.2.1.2.6. Fencing
1.5.3. Drainage
1.5.3.1. (By subsections determined by DB Team w/GDOT concurrence)
1.5.3.1.1. Cross Culverts
1.5.3.1.1.1. (By location)
1.5.3.1.2. Local Roads
1.5.3.1.2.1. Trunkline
1.5.3.1.2.2. Inlets and Laterals
1.5.3.1.3. Mainlanes, Managed Toll Lanes, and Ramps
1.5.3.1.3.1. Trunkline
1.5.3.1.3.2. Inlets and Laterals
1.5.3.1.4. Crossing Streets
1.5.3.1.4.1. (By Street)
1.5.4. Structures
1. 5.4.1. (By subsections determined by DB Team w/ GDOT concurrence)

1. 5.4.1.1. Bridges
1. 5.4.1.1.1. (By Bridge No.)
1. 5.4.1.1.1.1. Foundations
1. 5.4.1.1.1.2. Substructure
1. 5.4.1.1.1.3. Superstructure
1. 5.4.1.2. Retaining Walls
1. 5.4.1.2.1. (By Retaining Wall No.)
1. 5.4.1.3. Noise Walls
1. 5.4.1.3.1. (By Noise Wall No.)

1.5.5. Railroad

1.5.5.1. _____RR (By subsections determined by DB Team w/ GDOT concurrence)

1.5.5.1.1. Bridges
1.5.5.1.2. Trackwork
1.5.5.1.2.1. Track
1.5.5.1.2.2. Switches
1.5.5.1.2.3. Signal Work
1.5.5.1.204. Flagging

1.5.6. Landscaping

1.5.6.1. (By subsections determined by DB Team w/GDOT concurrence)

1.5.6.1.1. Trees and Shrubs
1.5.6.1.2. Seeding and Sodding
1.5.6.1.3. Plants and Ground Cover

1.5.7. Traffic Related Elements

1.5.7.1. (By subsections determined by DB Team w/GDOT concurrence)

1.5.7.1.1. Sign and Sign Support Structures
1.5.7.1.1.1 Mainlines and Ramps
1.5.7.1.1.2 Frontage Roads
1.5.7.1.1.3 Crossing Streets
1.5.7.1.2. Traffic Signal Systems
1.5.7.1.2.1. (By location)
1.5.7.1.3. Roadway Illumination
1.5.7.1.3.1. Mainlines and Ramps
1.5.7.1.3.2. Frontage Roads
1.5.7.1.3.3. Crossing Streets
1.5.7.1.3.3.1. (by Crossing Street)

1.5.8. ITS

1.5.8.1. (By subsections determined by DB Team w/GDOT concurrence)

1.5.8.1.1. Conduits
1.5.8.1.2. Closed Circuit Television (CCTV)
1.5.8.1.3. Vehicle Detection
1.5.8.1.4. Changeable Message Signs (CMS)
1.5.8.1.5. Lane Control Signals

1.5.9. Traffic Control During Construction

1.5.9.1. (By subsections determined by DB Team w/GDOT concurrence)

1.5.9.1.1. Traffic Mgmt. Strategy/All Stages
1.5.9.1.2. Traffic Control and Signing
1.5.9.1.3. Temporary Detours

1.5.10. Tolling
1.5.10.1. (By subsections determined by DB Team w/GDOT and SRTA concurrence)
1.5.10.1.1. Electronic Toll Collection System (ETCS) Infrastructure
1.5.10.1.1.1. Conduit Systems and Hubs
1.5.10.1.1.2. Support Structures
1.5.10.1.2. ETCS Equipment
1.5.11. Buildings
1.5.11.1. (By subsections determined by DB Team w/GDOT concurrence)
1.5.11.1.1. (By Building)
1.6. Operations During Construction
1.6.1. Project Patrols and Inspections
1.6.2. Traffic Control and Incident Management
1.6.3. Policing
1.6.4. Power Costs
1.7. Maintenance During Construction
1.7.1. Roadway
1.7.2. Drainage
1.7.3. Structures
1.7.4. Pavement Marking, Object Markers, Barriers, Delineators
1.7.5. Guard Rail, Safety Barrier, Impact Attenuator
1.7.6. Signs
1.7.7. Traffic Signal Systems
1.7.8. Lighting
1.7.9. Fences and Noise Walls
1.7.10, Roadside Management
1.7.11. ITS and ETCS
1.7.12. Buildings
1.7.13. Incident Response
1.7.14. Customer Response

- The Project Baseline Schedule shall divide the Work into activities with appropriate logic ties to show the DB Team's overall approach to the planning, scheduling, and execution of the Work. The duration and logical relationships of the activities (or summaries at the project phase level) shall be based on the actual duration and relationships anticipated. The DB Team shall not use calendar dates or constraints to logically begin or complete any activity unless calendar dates are shown in the DB Documents (In a case where a specific date is required to start or finish an activity only a start-on-or-before or a finish-on-or-before constraint is to be used).

- Activity Identification: DB Team shall use standard and consistent activity identification numbers, textual descriptions, and activity codes in a manner acceptable to GDOT for the Project Baseline Schedule. DB Team shall maintain consistency with the Schedule Template provided in the RID for all activity identification number. Only use an alphanumeric coding structure with no spaces,

hyphens, symbols or special characters to be used in the activity identification numbers. Periods are acceptable to use in the activity identification numbers. Each Project Baseline Schedule submittal shall be clearly identified. Resubmissions of a Project Baseline Schedule shall use the same revision number as the original submission individually identified by a sequential appended letter (A, B, etc.), as an indication of a revised version. Each activity shall have a unique activity identification number which shall not be modified or reassigned to different work activities once assigned to an activity.

- Each required milestone as set forth in Volume 1, Exhibit 9 shall be included in the schedule and conform to the scheduling requirements set forth in the DB Documents, and be assigned a "finish on or before" constraint date.

- No unspecified milestones, constraints, float suppression techniques, or use of activity durations, logic ties, and/or sequences deemed unreasonable by GDOT, shall be used in the Project Baseline Schedule. Each Project Baseline Schedule submittal shall clearly and individually define the progression of the Work within the applicable time frame by using separate activities.

- The Project Baseline Schedule shall be used by all Parties for planning and monitoring the progress of the Work and may serve as supporting documentation for determining the Payment Request amount that may be compensable to be made to DB Team. The updated Project Baseline Schedule shall show actual progress and not calculated progress. Accepted logic changes and approved changes to the DB Documents shall be incorporated into the Project Baseline Schedule (these changes are to be identified with either the change notice number or other method accepted by GDOT to identify the change to the schedule) and identified in the narrative with each submittal.

- If the DB Team chooses to resource load the schedule, the following requirements should be met. The commodity, labor, or equipment quantity that the activity value will be based on, shall be indicated as a resource. Labor-loading of activities shall be based upon total number of workers, not total number of crews. Major construction equipment to be used by the DB Team and subcontractors at all tiers in prosecuting Work shall be assigned to applicable activities. The quantity shall represent the estimated effort in-place for the activity value.

- The WBS for each work element shall indicate the duration, timing, and logical relationship to other work elements, including relationships to activities other than the parent activity of the particular Work element. Activities shall be broken down minimally to work elements (for example, bridges shall be broken down into foundations, substructure, superstructure, and decks). All Work shall be broken down to similar manageable work elements. Each activity shall describe Work associated with only one operation. For Utility Adjustment Work, if the Work is not shown as an activity itself, such Work shall be shown as a work element,

where applicable. For Mobilization activities or work elements, DB Team shall provide a list of work items that are included in each activity or work element.

- The Project Baseline Schedule shall define the timeframe for completion of the Project and achievement of milestones, and be used to monitor progress and denote changes that occur during design and construction.

Project Baseline Schedule submittals shall include:

1. Electronic copy (Primavera P6 Version 7.x or greater) of the file used for the proposed Project Baseline Schedule revision
2. A schedule narrative meeting the requirements of Section 2.2.3.
3. A critical path schedule plot (in .pdf format)
4. A full schedule plot (in .pdf format)

After the DB Team submits the Project Baseline Schedule, GDOT will review the Project Baseline Schedule and provide written acceptance or direction for the contractor to revise and resubmit the Project Baseline Schedule. Within 14 days of being directed by GDOT to revise and resubmit, the DB Team shall make revisions to the Project Baseline Schedule and re-submit the Project Baseline Schedule.

2.2.2.1 Logic Requirements

Logic ties shall refer to all relationship types. All activities/tasks on the Project Baseline Schedule shall meet the logic requirements below:

- A maximum duration of twenty (20) Calendar Days, and not less than one (1) Day, except activities relating to acceptances and reviews by Governmental Entities, procurement activities, or as otherwise accepted by GDOT.
- Activity relationships shall be Finish-to-Start (FS) with no leads or lags, Finish-to-Finish (FF) or Start-to-Start (SS) with lags no more than ½ of the predecessor's duration.
- The use of lags with a negative value shall not be allowed on any activity relationship type.
- The schedule shall provide sufficient time for all submittals and re-submittal review times required in the DB Documents. All GDOT/Agency review periods are to be 30 calendar days unless noted in Table 23-1.
- All activities shown in the schedule, with the exception of the first and last activity, shall have a minimum of one predecessor and a minimum of one successor activity.

2.2.2.2 Calendar Requirements

All calendars utilized on the project schedules shall be project level calendars. The DB Team shall not use or reference global level calendars. The use of standard GDOT calendars is required for scheduling the Project. The DB Team shall be allowed to add calendars as needed for their specific use provided that the additional calendars are defined and have a justified basis.

2.2.3 Narrative Requirements

The Project Baseline Schedule and all schedule updates shall include a separate narrative report. The narrative report shall be updated with each schedule submission and pertain to the work identified in the schedule.

For the Project Baseline Schedule submittals, the narrative report shall include the following separated into sections:

1. An explanation of the overall plan to complete the project, including where the work will begin and how the work and crews will progress through the project.

2. An explanation of the use and application of the workdays per week, number of shifts per day, number of hours per shift, holidays observed and how the schedule accommodates anticipated weather days for each month. Submit a list of the calendars used in the schedule and a definition of their type.

3. Description of the work to be completed each season for multi-year projects.

4. A description of the critical path.

5. An explanation of the use of any allowed constraints, including the reason and purpose for each constraint.

6. A statement describing the status of any required permits.

7. The DB Team's proposed methods of operation for designing and constructing the major portions of the Work required by the DB Documents.

For Project Schedule Updates the narrative shall also include the following:

1. A description of the work performed since the last schedule update. The work performed shall match the work scheduled to be performed since the last schedule update. If the work performed does not match the work scheduled to be performed, the DB Team shall include a detailed description of why there is a discrepancy between the activities that should have been completed or progressed as indicated in the previous schedule submittal. GDOT may withhold payment if the reason for the discrepancy is not deemed an acceptable change in sequencing of activities or outside the DB Team's control (3rd party or weather related) until additional documentation or recovery plan is submitted and accepted as appropriate.

2. A description of the status of the scheduled completion date, focusing on any changes since the previous submission including an explanation if the scheduled completion date is projected to occur after the contract completion date.

3. An explanation if any contract milestone dates are projected to occur after the dates set out in the contract.

4. A description of unusual labor, shift, equipment or material conditions or restrictions encountered.

5. A description of any problems encountered or anticipated since the last schedule update.

6. A statement that identifies any current and anticipated delays. A discussion of delays in the narrative report does not constitute notice in accordance with 105.13.B.9. The statement should include identification of the delayed activity, the type of delay, the cause of the delay, the effect of the delay on other activities and project milestones and identification of actions required to mitigate the delay.

2.2.4 Project Schedule Update Requirements

DB Team shall update, on a monthly basis, the accepted Project Schedule to reflect the current status of the Project, and any accepted Compensation or Relief Events by GDOT. The Schedule Update shall be submitted on or before the seventh day of the month after acceptance of the Project Baseline Schedule and shall be developed in accordance with the applicable provisions of the DB Documents. The data date of each update shall be the 1st of the month.

Each Project Schedule Update shall accurately reflect all activities completed as of the Data Date of the updated Project Schedule. All completed or started activities are to be at least one day prior to the Data Date of the schedule. DB Team shall submit the Project Schedule Update as an electronic version in .pdf and .xer formats. The DB Team shall also submit a PDF version of the Critical items graphical report for each Critical Path (zero float activities) sorted by activity early start date.

The Project Schedule Update shall include the following:

1. Electronic copy (Primavera P6 Version 7.x or greater) of the file used for the proposed Project Baseline Schedule revision

2. A schedule narrative meeting the requirements of Section 2.2.4

3. A critical path schedule plot (in .pdf format)

4. A full schedule plot (in .pdf format)

5. A five (5) week look ahead schedule for the activities to be completed between the schedule submittal and the following month's schedule update (in .pdf format)

6. A detailed variance report of the previous months five (5) week look ahead schedule.

7. A letter stating the dates which the DB Team could not work on activities identified on the critical path due to weather. If there were no weather delays experienced during the previous month the letter should state as such.

No changes in activity durations, calendar assignments, logic ties, or constraints will be allowed in the Project Schedule Update without written acceptance of GDOT.

The monthly Project Schedule Update(s) shall reflect updated progress to the Data Date, forecast the finish dates for in-progress activities, and reforecast early dates and late dates for remaining activities, but shall otherwise contain no changes in activity durations, logic ties, or constraints without acceptance from GDOT. The Project Schedule Update(s) shall also incorporate and fully specify all appropriate information from the previously accepted Project Baseline Schedule. Interruptions to an activity, after that activity has begun, shall be added as a separate activity. The activity that is interrupted shall be split into two activities; the initial activity shall be marked as completed and the new activity shall have a FS relationship with the added interruption activity.

GDOT will review the monthly Project Schedule Update(s) for consistency with DB Team's WBS, the current accepted Project Baseline Schedule and the previous months accepted update for conformance with the DB Documents. GDOT will review the Project Schedule Update and provide written acceptance or direction for the contractor to revise and resubmit the Project Schedule Update. Within 14 days of being directed by GDOT to revise and resubmit, the DB Team shall make revisions to the Project Schedule Update and re-submit the Project Schedule Update. GDOT may withhold payment until the Project Schedule Update is submitted.

2.2.5 Revised Project Baseline Schedule

As it becomes necessary to modify the Project Baseline Schedule to reflect changes to the current accepted schedule, a Revised Project Baseline schedule may be required. The Revised Project Baseline may be required if any of the following occur: work sequence changes, contractual changes (accepted Relief Events or Compensation Events), field condition changes, or a Revised Project Baseline schedule is requested by GDOT. GDOT shall have final acceptance authority for any changes to the Project Baseline Schedule. No changes to the Project Baseline Schedule shall be made without the prior written acceptance of GDOT. Until GDOT approves a change, all Project Schedule Update submittals shall be tracked against the previously accepted Project Baseline Schedule. Accepted revisions will be incorporated into the Project Schedule Update at the next monthly schedule update.

The Revised Project Baseline Schedule submittals shall include:

1. Electronic copy (Primavera P6 Version 7.x or greater) of the file used for the proposed Project Baseline Schedule revision
2. Narrative describing in detail any proposed changes to the current version of the Project Baseline Schedule with justification for the changes, including, at the minimum, the following:
    - Changes to activity original durations,
    - Changes to activity relationships and/or schedule logic,
    - Identification of activities that have been added, deleted, or modified,
    - Changes to the Project Baseline Schedule critical path, and /or
    - Changes or delay in any contractual completion date since the last Project Baseline Schedule submittal.

GDOT will review the Revised Project Baseline and provide written acceptance or direction for the contractor to revise and resubmit the Revised Project Baseline. Within 14 days of being directed by GDOT to revise and resubmit, the DB Team shall make revisions to the Revised Project Baseline and re-submit the Revised Project Baseline. Once a Revised Project Baseline Schedule is accepted by GDOT, it shall become the Project Baseline Schedule of record and be used as the basis for subsequent Project Schedule Update(s).

2.2.6 Schedule Display Requirements

Each schedule submitted to GDOT shall display the following items on each page:

- Activity ID
- Activity Description (or Activity Name)
- Original Duration
- Remaining Duration
- Early Start
- Early Finish
- Late Start
- Late Finish
- Actual Start
- Actual Finish
- Total Float
- Percent Complete
- Legend

- Contract Number
- District
- DB Team Name
- Project Location
- Original Contract Completion Date
- Revised Contract Completion Date (as Applicable)
- Data Date

2.3 Quality Management Requirements

2.3.1 Document Management

DB Team shall establish and maintain an electronic and hard copy document control system to store, catalog, and retrieve all Project related documents in a format that is accepted for use by GDOT. Unless otherwise directed by GDOT, record retention shall comply with the requirements included in the Retention Schedules for State Government Paper & Electronic Records, and the State Agency Specific Schedules for Department of Transportation, and shall be provided to GDOT at the time of the expiration or earlier termination of the Agreement.

2.3.2 Quality Management Plan Submittal Requirements

DB Team shall submit a comprehensive Quality Management Plan (QMP) to GDOT for acceptance that conforms to the quality assurance procedures with provisions contained in GDOT's Quality Control and Quality Assurance Program and 23 Code of Federal Regulations. The QMP shall be submitted to GDOT for review no later than thirty (30) days from NTP 1. All audits, findings and reports shall be provided to GDOT with all submittals.

2.3.3 Quality Management Plan Requirements

DB Team shall develop, implement, and maintain the QMP for the Term. The QMP shall describe the system, policies, and procedures that ensure the Work meets the requirements of the DB Documents and provides documented evidence of same.

The complete QMP shall encompass all Work performed by DB Team and Contractors of all tiers.

The QMP shall contain detailed procedures for DB Team's quality control and quality assurance activities. DB Team's quality process shall incorporate planned and systematic verifications and audits undertaken by an independent party. DB Team shall conduct all quality control, quality assurance, and design overlay and coordination

among design disciplines, all in accordance with the QMP and the requirements of the DB Documents.

When required by GDOT Specifications, DB Contract documents, inspections, reviews, and testing performed by the DB Team shall only be performed by entities prequalified by GDOT with training, qualifications, and certifications using equipment that is accurately calibrated and maintained in good operating condition at an AASHTO Materials Reference Laboratory (AMRL) (American Association of State Highway and Transportation Officials (AASHTO) R18, "*Establishing and Implementing a Quality System for Construction Materials Testing Laboratories*") accredited facility, or at a facility with comparable certification (e.g., International Organization for Standardization (ISO) 17025, "General Requirements for the Competence of Testing and Calibration Laboratories").

2.3.4 Quality Management Plan Structure

The DB Team shall organize the QMP as follows:

- **Project Quality Management Plan (PQMP)** - a quality policy statement shall be provided which contains a complete description of the quality policies and objectives that the DB Team will implement throughout its organization. The policy shall demonstrate the DB Team senior management's commitment to implement and continually improve the quality management system for the Work. The Quality Management Plan will also include policies, plans, processes and procedures for:
    - Organizational requirements with contact information of the DB Team's Organization as defined
    - Roles and responsibilities of the Quality Team
    - Administrative processes and procedures common to both design and construction quality management
    - Quality records management processes and procedures
    - A comprehensive noncompliance process
    - DB Team's internal and third party quality and compliance auditing processes and procedures

- **Design Quality Management Plan (DQMP)** - including but not be limited to plans, processes and procedures for:
    - Design development including checking, peer review, cross-discipline coordination for developing Project plans, Project specifications and estimates with supporting technical documentation
    - Managing design reviews and changes during design and construction
    - Design Decision Making
    - Design communication, coordination, and collaboration
    - Managing GDOT Reviews and Responses to submittals, Work Change Directives, and Change Requests
    - Document control

- Design and engineering support during construction, witnesses tests, reviewing quality inspection and test records, responding to Request For Information (RFI's) applications and field changes
- Independent auditing of design quality management
- Design criteria adherence
- Non-compliance management

- **Construction Quality Management Plan (CQMP)** - including but not limited to plans, processes and procedures for:
  - Tracking, Measuring and documenting construction progress
  - Construction decision making
  - Ensuring that only the most up to date Released for Construction documents are be used
  - Plan/Protocols for inspection, testing and maintaining quality certifications
  - Managing reviews and responses to Construction Documentation (RFIs, Field Changes, Design Changes, Construction Changes, Claims, etc., during construction)
  - Managing and tracking accepted construction changes
  - Managing and controlling construction schedule
  - Construction communication, coordination, and collaboration
  - Environmental compliance
  - Non-compliance management

Quality Management Plan forms and checklists are to be used to facilitate and document QA efforts including pre-work activity checklists that depict all items required to perform the particular design, construction and operational efforts, such as; means and methods, subcontractor involvement, materials and inspection / testing requirements.

The DB Team shall maintain construction workmanship and materials quality records of all inspections and tests performed per the approved CQMP. These records shall include factual evidence that the required inspections or tests have been performed by GDOT and its representative, including type and number of inspections or tests involved; results of inspections or tests; nature of defects, deviations, causes for rejection, etc.; proposed remedial action; and corrective actions taken. These records shall cover both conforming and defective or deficient features, and shall include a statement that all supplies and materials incorporated in the Work are in full compliance with the terms of the Contract Documents. These records shall be available for review and audit to GDOT inspectors.

2.3.5 Nonconformance Report (NCR) System

A Nonconformance Report (NCR) process shall be required to document, report and track Work that fails to conform to the requirements of the DB Documents. Examples of nonconformance's are: physical defects, test failures, incorrect or inadequate

documentation or changes from the design processes, inspection or test procedures described in the Project QMP.

GDOT will implement a web-based management system that will have the capability for documenting and implementing the NCRs that includes the description of the NCR, corrective action, action to prevent, the defined roles, dispositions, tracking log, and Work flow states.

The Originator of the NCR indicates the description of the nonconforming Work and the applicable requirements, and assigns the NCR to the Responsible Organization for disposition.

The Responsible Organization gives a full description of the nature, date, location and any other pertinent facts, and also indicates the root cause, corrective actions, actions to prevent recurrence and provides a proposed disposition of the nonconforming Work that is the subject of the NCR, by the DB Team's Quality Manager (QM), the Engineer of Record (EOR), and GDOT. If the disposition is accepted by GDOT Authorized Representative, the Responsible Organization is notified of the final determination. Upon verification that the disposition has been performed, the NCR is closed. If the disposition is not accepted by GDOT, the NCR will remain opened until the disposition is accepted by GDOT.

2.3.5.1 Role Definitions and Order of Review

For purposes of Nonconformance Reporting, the following terms have the meaning and roles identified below:

- **Originator** – The entity which initiates and creates the Nonconformance Report. The Originator can be the DB Team or GDOT. The Originator closes the Nonconformance Report document once all requirements have been met. The NCR cannot be closed until the Responsible Organization's disposition is accepted by GDOT.
- **Responsible Organization** – The entity to whom the Nonconformance Report is sent. The Responsible Organization is the entity directly responsible for the nonconforming Work on which the Nonconformance Report was written and who is responsible for correcting the nonconforming Work and provides proposed disposition to resolve the Nonconformance Report.
- **DB Team's Quality Manager (QM)** – The individual that is responsible for assuring quality of the Work. After the QM has reviewed the Responsible Organization's disposition, he forwards the Nonconformance Report to the EOR, and the GDOT Authorized Representative.
- **Engineer of Record (EOR)** – The individual that is responsible for the design of the Work. The EOR must review, reject or approve all Nonconformance Reports and supporting documents, subject to the GDOT Authorized Representative's determination of the accepted Design Documents. Any changes from the requirements of the DB Documents must be presented for acceptance as a

Change Request. If the subject of the NCR is not related to a subject that would typically require a design professional's input, the EOR must note that the NCR is "not applicable".

- **GDOT** – GDOT must review and make a recommendation to reject or accept all dispositions and supporting documents.
- **GDOT Authorized Representative –** The individual authorized that is responsible for monitoring the Nonconformance Report process.

2.3.5.2 Disposition Options

After the Originator of a Nonconformance Report (NCR) has activated an NCR, the Responsible Party provides a proposed disposition. Options available for the disposition are defined in the Nonconformance Report as follows:

- **Reject** – The Work is unsuitable for its intended use, and incapable of being reworked or repaired to meet the specified requirements of the DB Documents.
- **Rework** – The deficiency can be brought into conformance with the DB Documents through re-machining, reassembling, reprocessing, reinstallation, or completion of the required operations.
    - Inspection is required after the rework is completed to verify the rework is satisfactory to the Originating Party.
- **Repair** – Action is required that will result in making the Work acceptable for its intended use, as determined by an engineering evaluation although the item might not meet all of the requirements of the DB Documents.
    - Inspection is required after the repair is completed to verify the repair is satisfactory to the Originating Party.
- **Accept-As-Is** – Allows the use of the Work completed that does not meet all requirements of the Design Document requirements, but it is determined by engineering evaluation that the Work will satisfy its intended use.

2.3.5.3 Corrective Action

In addition to the resolution of nonconformance on an individual basis the corrective action process will urgently recognize, report and resolve systemic and serious deficiencies, including:

- Repetitive NCRs that indicate inadequacies in either production process or inspections
- Issues of safety or conditions likely to have a significant effect on the Project
- Quality procedures not being carried out in a timely fashion

The Corrective Action mechanism will address the possibility that the personnel responsible for the relevant activity might be a primary cause of the deficiencies. Remedial action might involve additional training and in some cases removal of personnel from the activity and/or the Project.

2.3.5.4 Workflow States

The following workflow states are applicable to the Nonconformance Report:

State	Description
Draft	Indicates that the Nonconformance Report is being written.
Active	Indicates that the Nonconformance Report has been submitted to the Responsible Organization to provide causes, corrective actions, actions to prevent recurrence and a disposition for the nonconforming Work.
Pending Review/Correction	Indicates that the Responsible Organization has responded with a disposition and the disposition is under review. The document is routed to appropriate parties for concurrence/acceptance of the disposition.
Pending Closure	Indicates that the nonconforming has been corrected and Responsible Organization is waiting for inspection/verification and closure.
Closed	Indicates that the nonconforming has been resolved satisfactorily and the Nonconformance Report is closed.

2.3.6 Quality Management Updates

The DB Team shall regularly maintain the Quality Management Plan to contain current versions of the following information:

- The organizational chart that identifies all quality management personnel, their roles, authorities and line reporting relationships.
- Description of the roles and responsibilities of all quality management personnel and those who have the authority to stop Work
- Identification of testing agencies, including information on each agency's capability to provide the specific services required for the Work, certifications held, equipment and location of laboratories.

2.3.7 Responsibility and Authority of DB Team Staff

Personnel assigned to perform inspection, testing, or monitoring of characteristics for quality control shall not be those personnel performing or directly supervising the Work being accepted. The DB Team's Quality Manager and quality control staff shall have no responsibilities in the production of the Work.

The Quality Manager shall prepare a monthly report of the quality inspections and tests performed, results of such inspections and tests, and occurrences and resolution of non-conformance discoveries. The DB Team shall submit the monthly reports to GDOT for review.

The DB Team's Quality Manager, quality assurance manager, and quality control manager(s) shall have the authority to stop Work for quality-related issues.

2.3.8 Design Quality Management Plan

It shall be the DB Team's sole responsibility to provide Project plans, drawings, and specifications of such a nature to deliver the finished construction Work in accordance with all DB Documents requirements. GDOT comments pertaining to design documents shall not relieve the DB Team of that responsibility. The DB Team shall not begin Construction Work until all GDOT comments on the design submittal are resolved to the satisfaction of GDOT and the plan is accepted.

The DB Team shall assign a Design Manager that shall be responsible for the supervision and quality of all Design Work and design processes, including but not limited to each of the following:

- Accuracy
- Adequacy
- Conformance to professional standards of practice
- Compliance with all legal requirements and standards mandated by the Agreement
- Quality

The DB Team shall provide independent design checks by independent design review. Independent design reviews are to be performed and documented per the process defined in the DB Team Design Quality Management Plan and completed prior to any submittal to GDOT.

Elements of the Design Quality Management Plan process are:

- **Design Workshop** - Within fifteen (15) days of NTP 1, the DB Team shall arrange a design workshop which will be attended by the Designer's personnel, GDOT, and any invited participants of the Project. The purpose will be to familiarize involved personnel with the design concepts, issues, status, and review procedures. The DB Team and GDOT will jointly develop the agenda of the workshop and how it will be organized (i.e., by GDOT department and engineering discipline). Consensus will be determined during the Design Workshop on the use of Interim Design reviews for facility elements that pose complex or entail additional conflict resolution effort, if applicable. The workshop will also discuss the extent of GDOT reviews. The agenda will include developing agreements regarding time allowed for design reviews. The intent of the workshop is to make the subsequent Design Reviews more effective and efficient for all parties.

- **ITS and Toll System Design Workshop(s) (For Toll Projects Only)** - After roadway geometry is established, but before beginning design efforts for the

prototype toll-related ITS, ITS and tolling design plans, the DB Team shall arrange an ITS and Toll System Design Workshop which shall be attended by the DB Team's Design EOR for each of the key disciplines (including but not limited to ITS, Electrical, Structural, Mechanical) for the Tolling Plans / tolling components, GDOT, State Road and Tollway Authority (SRTA), SRTA Toll SI, and any invited participants of the Project. If the DB Team's Design EOR for each of the key disciplines (including but not limited to ITS, Electrical, Structural, Mechanical) for the Tolling Plans / tolling components is not the same, in other words multiple design teams are being utilized concurrently by the DB Team, then all are required to attend for the purpose of consistency in design.

The purpose of this workshop will be to commence coordination with SRTA and SRTA's Toll SI on design elements related to the tolling components. The DB Team and SRTA will jointly develop the agenda of the workshop and location. The required prototype submittals locations will be selected based upon coordination at this workshop. Consensus will be determined during the Design Workshop on when best to schedule the second Toll Design workshop for tolling elements that pose complex site specific constraints or entail additional conflict resolution effort. Additional workshops may be scheduled at the consensus of the DB Team and SRTA as needed.

- **Design Review Quality Plan -** The Design Review Quality Plan shall be part of the Quality Management Plan and be submitted for GDOT review and acceptance within thirty (30) Days from NTP 1. No design submittals shall be provided until the Design Review Quality Plan is accepted by GDOT. The Design Review Quality Plan shall include both the quality responsibilities of the Design Manager and the independent responsibilities of the Quality Manager. The Design Review Quality Plan shall be specific to each stage of design development. The DB Team shall make a single independent comprehensive design check and design review for every submittal. The DB Team shall provide plans in accordance with the Plan Development Process (PDP), Electronic Data Guidelines (EDG) and the Plan Presentation Guide (PPG) and Manuals for GDOT reviews. Any change of software versions from the Technical Provisions used in producing the plans will be allowed under the condition that the DB Team provides any software, access to software licenses, and training for use of the proposed software. The Design Review Quality Plan stages of design development per the accepted Construction Phasing Plan (see Section 23) are:
    - Conceptual Layout Plan for the entire Project (see Section 23)
    - Preliminary Plans for the Construction Phase Submittals (See Section 23).
    - Final Plans for the Construction Phase Submittals (see Section 23).
    - Final Plans (Complete Set) for the accepted Construction Phase.
    - As-builts.

  The DB Team may choose to submit certain drawings for facilitating better communication with GDOT. Interim Design reviews are intended to resolve

conflicts and unresolved comments after the Preliminary Plans have been accepted but prior to Final Plan submittals.

The DB Team shall document all design criteria and design decisions in a Project Design Data Book submitted for approval, per Section 23, and then kept with the project files. The Project Design Data Book shall include complete and up-to-date design parameters and decisions (as applicable to the Project) as presented in Chapter 5, Concept Design of the GDOT Plan Development Process (GDOT PDP) included in Volume 3 Manuals.

The DB Team shall submit the initial Project Design Data Book for GDOT acceptance no later than 30 Days after NTP1. The DB Team shall not submit any Design Submittal until the Project Design Data Book has been approved.

The DB Team shall update and include the relevant portions, or as requested by GDOT, of the Project Design Data Book with each design submittal, including, but not limited to Preliminary Design, Final Design, RFC and RFC revisions. The DB Team shall include the finalized and comprehensive Design Project Data Book with the as-built submittal.

- **Independent Design Checks** - The DB Team shall ensure that independent design checks are carried out by an Independent Design Reviewer not involved in the production of the design being reviewed. Those performing the checks should have equal or greater qualifications and experience as the EOR for the design being checked. The DB Team shall provide to GDOT a plan / process and written procedures for this Independent Design Check. Independent design review shall be provided for each and every design submittal prior to being submitted to GDOT. The DB Team, when requested by GDOT, shall promptly provide access to all comments and comment responses between the DB Teams EOR and the Independent Design Reviewer for each submittal review.

  Independent design checks are comprised of design assessment and analytical checks as follows:
  - Design Assessment – is a review of general compliance with the requirements of the Agreement, taking into consideration the following areas:
    - Project design criteria;
    - Applicable codes and standards;
    - Methods of analysis;
    - Computer software and its validation;
    - Interface requirements;
    - Materials and material properties;
    - Durability requirements;
    - Constructability;
    - Context Sensitivity; and
    - Environmental Compliance.

- Any required Design Exceptions and/or Variances.

The Design Exceptions and Design Variances as listed and allowed in Volume 2 Section 11.2.3 shall be updated and provided by the DB Team to GDOT as appropriate for review and acceptance. All Design Exceptions and Design Variances shall be submitted and accepted prior to the Preliminary Plan submittal.

- Analytical Check – using separate calculations (and without reference to Designer's calculations) to establish the structural adequacy and integrity of critical structural members. This includes, but not limited to the following:
  - Structural geometry and modeling;
  - Material properties;
  - Member properties;
  - Loading intensities;
  - Foundation loads; and
  - Structural boundary conditions

- **Changes Subsequent to Review -** If design is amended subsequent to the design review and acceptance by GDOT, the DB Team shall re-check and re-certify the design as an additional design review. Substantive changes to plans and specifications initiated by the DB Team and already checked by the Design Manager and certified by the Quality Manager shall be subjected to the Design Review process as an entirely new design.

- **Design Reviews -** Design review meetings and participation – Design reviews and meetings shall be conducted by the DB Team's Design Manager. The Quality Manager, the Design Manager, EOR, DB Team's Independent Design Reviewer, and any Design Professionals having significant input into the design or review shall be present. The DB Team shall notify and invite GDOT to participate in all design reviews. At a minimum, the Design Manager shall organize and facilitate the design review kick off workshop with GDOT no later than thirty (30) days of NTP 1 to discuss design submittals. Thereafter, design review meetings shall be scheduled monthly until all submittals have been accepted or to the frequency determined by GDOT to ensure process and success is obtained for all design reviews. GDOT may also invite additional stakeholders to attend. GDOT's participation in design reviews shall not relieve the DB Team of its responsibility for the satisfactory completion of the Work in accordance with all requirements of the DB Documents.

  The DB Team's Design Manager shall provide the agenda of the meeting in advance of the meetings and provide a detailed summary status of all submittals provided to GDOT for their review. The detailed summary status list at a minimum shall provide date submitted, to whom, contractual required review period, total days in submission, date accepted, and comments.

The DB Team shall provide or make available to review meeting participants all design documents (e.g., drawings, reports, specifications, basis of design memorandums and other technical memorandums as necessary to support design decisions) pertinent to the design review, including all prior comments and actions resulting there from. The DB Team shall prepare and distribute minutes from the review meetings. Design Reviews shall be conducted for the following:

- Conceptual Layout Plans submittal shall include alignment and lane configuration information necessary to verify lane continuity and general scope compliance for the entire Project.
- Preliminary Plans submittal shall be the first design review meeting requiring participation of GDOT and is intended to verify that the concepts proposed by the DB Team comply with the detailed requirements of the DB Documents. The Quality Manager shall verify in writing the compliance and completeness of the design submittal prior to presenting the Preliminary Plans to GDOT for review. The following issues shall be discussed:
  - All requirements of the DB Documents applicable to the proposed concept documents, including all applicable standards and legal requirements, environmental compliance, and environmental permit conditions, have been identified, and the proposed designs are in compliance.
  - The proposed concepts are substantiated and justified by adequate site investigation and analysis.
  - Right of way requirements have been identified and any changes to the proposed Right of Way (ROW) have been addressed for GDOT to maintain and operate the Project after Final Acceptance.
  - The proposed concepts are constructible.
  - Required materials and equipment are available.
  - The proposed concepts meet all quality requirements, and all required Quality Management Plan procedures have been followed including for site maps and concept drawings and draft specifications for any materials or methods that are not industry standard.
  - All Design Exceptions and Variances accepted.
- Optional limited Interim Design reviews are intended to resolve conflicts and unresolved comments after the Preliminary Plans have been accepted but prior to Final Plans. The DB Team should use Interim Design Reviews to remedy conflicts, account for exceptions, and incorporate betterments. The DB Team shall notify GDOT if Interim Design reviews are necessary and shall schedule the necessary design reviews. Workshops, meetings and “over-the-shoulder” reviews are means to facilitate Interim Design reviews by GDOT.
- The DB Team may also use Interim Plan reviews to verify that the concepts and parameters established and represented by Preliminary Plans are being followed, and that all requirements of the DB Documents continue to be met. The DB Team shall specifically highlight, check, and

bring to the attention of GDOT any information differing from or supplemented to that presented at the Preliminary Plan review.

- Final Plan reviews shall verify that the concepts and parameters established and represented by Preliminary Plans and any Interim Designs are being followed and that all Agreement requirements continue to be met. The DB Team shall specifically highlight, check, and bring to the attention of GDOT any information differing from or supplemental to that presented previously. Prior to scheduling the Final Plan review with GDOT, the Quality Manager's independent review shall have been completed.
- The DB Team shall be responsible for demonstrating that any proposed specifications meet or exceed the minimum Agreement and permit requirements. GDOT shall have final determination at its sole discretion that these requirements are being met and that the specifications are suitable and appropriate to control the Work.
- Temporary works design reviews, except where public safety might be affected, are the responsibility of the DB Team to assure conformance with the Final Plans and specifications and in accordance with the Agreement requirements. The DB Team shall verify pertinent dimensions in the field prior to conducting a temporary works plan review. The DB Team shall check, review, and certify temporary works designs prior to their use in fabrication and/or construction.
- The review of as-built record documents shall be performed initially by the DB Team to assure "red-lines" and authorized changes to the Final Plans are properly notated on the record plans and specifications, and that quality documents and facility records indicating variances or changes have been reflected on the plans and specifications. Once the DB Team has completed their review the as-built records are to be submitted to GDOT for review and acceptance.
- Design quality records shall be maintained by the DB Team in an auditable format according to the Quality Management Plan procedures. GDOT has the right to audit the quality records for compliance with the Quality Management Plan and the Agreement requirements. Upon completion of the Project, the Quality Records are turned over to GDOT.

2.3.9 Record Drawings and Documentation

Within 30 days of Substantial Completion and prior to Final Acceptance, the DB Team shall submit to GDOT a complete set of Record or As-Built drawings for all the Construction Phases of the Project. The Record Drawings and documentation shall be an organized, complete record of Plans and supporting calculations and details that accurately represent what the DB Team constructed. The DB Team shall ensure that the Record Drawings reflect the actual condition of the constructed Work.

Record Drawings shall be submitted in hard copy and electronic format for the portion of the Project actually opened to traffic. Refer to Section 23 of Volume 2 for submittal

requirements. The DB Team shall include a signed statement ensuring that the Record Drawings reflect the actual condition of the constructed Work.

2.4 Requirements for GDOT Office and Equipment

Refer to Volume 2

2.5 Web-Based Project Management Program

GDOT will implement a project web-based management website throughout the term of the Agreement for file storage, communication, and correspondence. The DB Team is required to access and use the web-based project management system provided by GDOT.

This system provides all project team members:

- Simplification of communications
- Automated tracking of time-sensitive information
- Automated reporting
- Common document storage and management audit trail of information
- Secure, real-time 24/7 access and exchange of information

All project team members shall be required to use this system for all official project communications and interactions, including:

- Correspondence
- Quality Management Plan and submittals
- Issues
- Meetings
- Design Management
- RFIs (Requests for Information)
- Submittals
- Schedule submittals
- Nonconformance reporting (NCR's)
- Punch Lists
- Reporting
- Document Management (see table below for the required File Naming Convention)
- Construction Drawing Management (including management markups, versions and revisions)
- Project Archiving and Closeout
- As-Built Drawing Management
- Conformance to Web-Based System

All project team members shall use the web-based project management system on a daily basis to perform their project responsibilities in a timely manner.

Additional requirements/guidelines of the system:

- The web-based system shall be used to track and manage the Project and will be an official record of all project communication. Organizations shall post key project-related information to the system. GDOT shall provide a system that will at a minimum provide a shared interface for: meeting minutes, Requests for Information (RFIs), general correspondence / transmittals, Punch List, Nonconformance Reports (NCRs), inspection logs and reports, management audit logs and reports, and Submittals including schedule updates and schedule revisions.
- No later than thirty (30) calendar days after NTP 1, all project team organizations involved shall designate a web-based project management system coordinator (an internal point of contact) and provide coordinator's name, phone and e-mail to GDOT and DB Team.
- All users of this web-based project management system must complete training prior to having access to the system. GDOT will provide this training.
- All project team members will be solely responsible for establishing and furnishing high-speed internet connectivity (T1, cable modem, or DSL connectivity is recommended) to access the web-based project management system.
- Submittals must be made, tracked, and reviewed via the system. In the case where physical samples are required, the submittal will still be reviewed and tracked via the system. The sample itself will be transmitted to the reviewer via traditional means.
- The DB Team and GDOT shall utilize the filing naming convention as provided in the table below.

All Submittals shall be provided to the web-based project management system. Project documents shall comply with the naming convention requirements of GDOT's Electronic Data Guidelines (EDG). When not specified in the EDG, project documents transmitted via the system must comply with the following electronic formats:

- Documents generated in Computer Aided Design (CAD) applications (MicroStation V8 or InRoads) shall be submitted in Portable Document Format (PDF) generated by a PDF writer from the CAD application.
- Documents that are marked up or unavailable in electronic format (drawings, sketches, correspondence, etc. generated by hand drafting methods) shall be scanned to Tagged Image Format version 5 or 6 [TIFF 5 or 6 (.TIF)], Bitonal [or Black and White (a.k.a. Line Art), on some scanners] (.tif) or PDF (.pdf), black and white with a resolution of 200 dpi using CCITT Group 4 (2d Fax) compression.
- Documents that have been generated using PDF printer drivers (not scanned) shall be submitted via the system.

- Electronic photographs shall be submitted in Joint Photographic Experts Group (JPEG) (.jpg) file format, sized at a minimum resolution of 1024x768 pixels.
- Grayscale or color photo images that are scanned shall be saved in JPEG (.jpg) file format with medium to low quality compression at a resolution of 200 dpi.
- Product data that is available for download from the manufacturer's website that has been generated using PDF printer drivers (not scanned) may also be submitted via the System.

File Naming Convention

The following file naming convention shall be used on all correspondence created or issued by the project and for filing any document.

PI_Date_File Type ID_File Name

All FINAL versions of documents to be saved in the "**Final Deliverables**" folder as follows:

PI_Date_File Type ID_File Name (Final)

Date will be represented in **YYYY-MM-DD** format; using two digits for the month and the date and four digits for the year. For example, July 4, 1776 will be represented as 1776-07-04.

You may use "versions" or "drafts" included in the file name portion of the naming convention for the non-final document.

File Type Identification Table

File Type ID	*File Type*	*File Type*
AB	As-Builts	
AC	Accidents	
AD	Advertisement	Advertisements to the public, such as advertisement for intent to post RFQ (NOI), advertisements for public meetings (PIOH & PHOH), etc.
AP	Acceptances	
AUD	Document Audit	
BND	Bond Related	All bond related items.
CAL	Calculations	
CI	Contractor Invoices	

File Type ID	*File Type*	*File Type*
CL	Claims	
CM	Construction Management Related	
CO	Change Order Documents	
COM	Comments	
COR	Correspondence	Not to be used for letters (see LTR) and memorandums (see MEM).
CR	Construction Reports	Construction reports of any frequency; the name of the file will clarify frequency of reporting/
CST	Cost Estimate	
CT	Contract Document, RFP, RFQ	
DBE	Disadvantaged Business Enterprise	
DW	Drawing	Examples: PDF of CAD drawings.
EEO	Equal Employment Opportunity	
EM	E-Mail	Emails are NOT considered deliverables, this is for record keeping purposes.
ENV	Environmental	All Environmental Documents, including special studies.
FAX	Facsimile	
FP	Financial Plan	
INS	Insurance Related	All insurance related items.
IGA	Intergovernmental Agreements	
ISS	Issues	Design related issues and request for information.
LCR	Lane Closure Requests	
LD	Liquidated Damages	
LOG	Log	
LTR	Letter	
MA	Meeting Agenda	
MAT	Materials Related	
MDR	Materials Deficiency Reports	
MEM	Memorandum	To be used for correspondence with "memorandum" in the subject line.
MM	Meeting Minutes	
MOT	Maintenance of Traffic	

File Type ID	*File Type*	*File Type*
MP	Project Master Plans, Planning Documents	
MSC	Miscellaneous	
MSI	Meeting Minutes Sign-In Sheet	
MUN	Municipal	
NCR	Nonconformance Report	
NOI	Notice of Intent	
NTF	Note to File	
NTP	Notice to Proceed	
OM	Operation & Maintenance	
PCR	Project Change Request Document	
PDI	Product Data and Information	Examples: bottomless culvert product catalog, guardrail beam information, etc.
PER	Permit Related	
PIX	Photos	
PL	Punch List	
PM	Project Management	All project management related documents and files.
PP	Program Procedure	
PPM	Policies and Procedures Manual	
PS	Plan Specification(s)	
PST	Presentation	PowerPoint and other types of presentations; not to be used for animations (see VID)
PT	Permit	
PUB	Public Involvement	To be used for all outreach related documents and files, including stakeholder, industry, agency and legislator outreach
QA	Quality Assurance	
QC	Quality Control	
REG	Regulatory Agencies	To be used for documents and guidelines published by regulatory agencies; NOT to be used for permit related files and documents (see PT).
RES	Research	

File Type ID	*File Type*	*File Type*
REV	Plan Revisions	
RFI	Request for Information	Construction related issues and request for information.
RFP	Request for Proposal	
RFQ	Request for Qualifications	
ROW	Right of Way	
RP	Report (All Technical Reports)	All technical analyses, studies, whitepapers, etc.; EXCEPT environmental related documents and files (see ENV).
SCH	Schedule	
SDW	Shop Drawing	
SP	Specification/Special Provision	
SR	Status reports, progress reports	The name of the file needs to clarify type and frequency of reports.
SRV	Submittal Review	NOT to be used for plan revisions (see REV).
STD	Project Standards	
SUB	Subcontractors	
SUR	Survey	Land survey information and documents, not question surveys
TE	Time Extension	
TRF	Traffic Related	
TX	Transmittal	
UTL	Utility	
VID	Video	Animations; daily videos of construction sites
WAR	Warranty Related	All warranty related items

3 PUBLIC INFORMATION AND COMMUNICATIONS

3.1 General Requirements

It is vital to the success of the Project that GDOT and DB Team gain and maintain public support. The public will better support GDOT and DB Team if they are kept abreast of Project information in a timely manner, are notified in advance of potential impacts, have an opportunity to identify issues and recommend solutions, receive timely and appropriate feedback from GDOT, and perceive a high-quality, well executed communications plan for keeping them informed, engaged, and educated. The DB Team shall coordinate with GDOT on items necessary to comply with GDOT's Public Information Policy Manual.

This Section 3 describes the requirements with which DB Team shall comply during the Term of the Agreement regarding the provision of information and communication with GDOT to facilitate outreach and education to Customer Groups.

3.2 Administrative Requirements

3.2.1 Public Information and Communications Plan

GDOT will develop a comprehensive Public Information and Communications Plan (PICP) which lays out a plan to inform, educate, and engage the Customer Groups throughout every Project Phase including an Emergency Event Communications plan that includes guidelines for communications protocol, roles and responsibilities, specific activities, and timelines for adherence in emergency situations. However, due to the nature of the DB Team performing the work and in accordance with the Project Baseline Schedule, the DB Team shall coordinate and collaborate with GDOT on the development of the PICP. The DB Team shall also comply with the PICP throughout the Term of the Agreement. The DB Team shall review and provide input to the final PICP within ten (10) Days of receipt. This plan will include a project mailing list, which GDOT shall maintain and update throughout the design and construction activities to ensure all interested citizens and or groups will be notified about meetings and Project news. The PICP will include a general timeline listing public information activities for the Project over the entire Term of the Agreement, indicating if and to what level the DB Team shall be involved.

The GDOT developed PICP will be flexible to capture the full magnitude of yet-to-be-determined impacts from Project activities such as design, construction, and the public's reaction to these and other impacts. The PICP will also be resilient to successfully implement the outlined strategies, given the ever-changing desire for depth, breadth, and frequency of information by a variety of important Customer Groups such as the media, elected officials, transportation stakeholders, and the general public. The DB Team shall coordinate with GDOT throughout the Project to ensure information is shared in a timely manner and effective resources are allocated to outreach needs.

The DB Team shall provide a communications protocol coordinated and accepted by GDOT for communication with the public. GDOT will act as the lead in disseminating any information to the public.

GDOT's PICP shall detail the communication hierarchy for information distribution related to the compliance with approved Environmental Documents, as described in Section 4 (Environmental). The PICP shall include names and contact information, including emergency contact information, and the preferred methods of routine, and emergency communication distribution. The DB Team shall ensure that any changes to contact information pertaining to the CEPP are incorporated into the PICP in a timely manner.

3.2.2 Project Information Coordinator

DB Team shall provide a Project Information Coordinator (PIC) to lead DB Team's responsibility for public involvement activities on a day-to-day basis throughout the Term of the Agreement until Final Acceptance. The Project Information Coordinator shall have a minimum of four (4) years of relevant experience on projects of similar type and scope. Responsibilities shall include coordinating with GDOT to facilitate communication among the DB Team, GDOT personnel (including GDOT's Communications Officers), and Customer Groups as well as interacting with affected Customer Groups and representing the interests of the Project at associated public meetings and other formal and informal occasions, upon GDOT request.

In implementing the PICP, DB Team's Project Information Coordinator shall assist GDOT with the following:

- Notify GDOT no less than twenty one (21) days in advance of the start of any construction activity that will impact the general public or motoring public such as any changes in traffic patterns to the existing general purpose lanes or existing transportation facilities so that GDOT can communicate the potential impacts of these activities with the general public and adjacent Government Entities.
- DB Team Project Information Coordinator shall be available to answer questions via telephone (project phone line), mail, email or in person (at the project office) during normal business hours. DB Team staff should maintain a telephone log of complaints and a response to how and when the complaint was resolved.
- Conduct media and other group tours, if required, of the Project at appropriate times.
- DB Team's Project Information Coordinator shall participate, as requested, in on-going dialogue among Customer Groups, GDOT, and DB Team.
- Upon request and with GDOT's acceptance, the DB Teams Project Information Coordinator and other key DB Team staff shall attend meetings with key elected officials, the general public, representatives of civic organizations, businesses, and special interest groups along the Project corridor (individually or in groups) for the purpose of building rapport with affected stakeholders.

- DB Team shall provide supportive information for media inquiries when requested by GDOT.
- Upon request from GDOT, DB Team Project Information Coordinator shall staff project informational kiosks to be held throughout study area.
- Provide GDOT with information on project status, traffic impacts and other information for communication to key stakeholder groups and the general public through email, text and social media.

3.2.3 Reserved

3.2.4 Public Meetings

When requested by GDOT, DB Team shall participate by providing necessary staffing support in any meetings with the public arranged and conducted by GDOT. During such meetings, DB Team shall be in attendance to assist GDOT in informing the public of the Project progress and discuss key issues as they emerge.

3.2.5 Monthly Public Information and Communication Reporting

DB Team shall provide a monthly Public Information and Communication Report to GDOT. The following information regarding subjects of interest to the public, including:

- Design and construction issues affecting adjacent residential areas, frontage roads, local streets, and utilities, including such issues as Project definition, grading, drainage, and noise, retaining walls, lane closures, ramp closures, local road closures and traffic shifts (changes in any use of exiting traffic);
- Street and roadway detour design and implementation;
- Scheduling and duration of Work, including hours of construction;
- Haul routes;
- Methods to minimize noise and dust; and
- Environmental mitigation measures.

3.2.6 Emergency Event Communications

For all Emergency events, such as vehicle collisions, ice/snow conditions, flooding, Hazardous Material spills, and Force Majeure Events, the Project Information Coordinator shall take timely and appropriate action to inform GDOT of all pertinent details. The Project Information Coordinator shall provide these details through the use of appropriate tools to ensure effective and timely communication to GDOT representatives who will, in turn, inform the media, elected and local officials, and key stakeholders. The DB Team shall provide an Emergency Response plan to define communications protocol in emergency situations. This plan shall include a twenty four (24) hour contact list and protocol (hierarchy of member notification) for all of the Project team members including the local emergency response members adjacent to the Project, utility companies with facilities within Project limits. These tools include: overhead changeable message signs (CMS), temporary changeable message signs,

GDOT's ITS web based information tool, email/web alerts, telephone notification, facsimiles, and media releases/interviews, as appropriate. The DB Team shall continue to provide updated information, as available and on a timely basis, until the Emergency no longer exists.

In the event of an unforeseen Emergency, timely notification shall occur as soon as practicable, but no longer than fifteen minutes from of the start of the occurrence. If advance warning is available for an Emergency event such as ice/snow, timely notification shall mean as soon as practicable, but in no event longer than fifteen (15) minutes from the time the information was available. In both situations, the DB Team shall continue to provide updated information to GDOT, as available and on a timely basis, until the Emergency no longer exists.

3.2.7 Public Information

DB Team shall assist GDOT in the review of materials regarding Project related subjects, for use in meetings, news releases, telephone correspondence, newsletters, email, ATMS, GDOTs ITS web based information tool, overhead dynamic and changeable message board signs, web alerts, maps, displays, renderings, presentations, brochures, and pamphlets.

DB Team shall assist in the development of Project-related information for the GDOT Project website, including:

- Project maps
- Frequently asked questions (FAQs)
- Current Project activities addressing design, construction
- Timing of street and ramp closures and openings
- Any utility disruptions
- Recommended route alternatives during closures

The DB Team, working collaboratively with GDOT, will furnish facility-related materials in multi-lingual communications not limited to English, Spanish, Portuguese and other languages.

3.2.8 Public Involvement Action Items

The following Table 3.1 summarizes the responsibilities for the DB Team and GDOT on each of the project information tasks. It also describes the general timeframe and audience for these activities.

Table 3-1

Task	Audience	Timeframe	Responsibility
Public Information Office	General Public	Duration of Project	DB Team with oversight from GDOT PCM and support from GDOT Project Support Staff

Task	Audience	Timeframe	Responsibility
Project Phone Line	General Public	Duration of Project	DB Team with oversight from GDOT PCM
Responding to General Public Inquiries/ comments	General Public	Duration of Project	DB Team with oversight from GDOT PCM and support from GDOT Project Support Staff
Continuous Communications with Elected/ Public Officials	All Audiences	Monthly Updates and Meetings at Key Milestones	GDOT PCM and PIO staff to coordinate and facilitate
Town Hall Meetings	General Public	Key Milestones	DB Team and GDOT Project Support Staff to coordinate with staffing by appropriate technical staff
Stakeholder Meetings	Municipal/ county staff	Semiannual Meetings	DB Team to coordinate with staffing by appropriate technical staff
Neighborhood Assoc., Business/ Property Owners, Civic and Interest Group Meetings	Selected groups	Duration of Project as Necessary	DB Team to coordinate with staffing by appropriate technical staff
Traffic Impact and Lane, Ramp and Street Closure Notices	General Public	Duration of Construction Period	GDOT Project Support Staff to serve as media contact. DB Team to provide information in advance of traffic impacts and support on media requests
Website Information	General Public	Duration of Project	GDOT Project Support Staff to maintain and update with support from DB Team
News Releases and Traffic Advisories	General Public	Duration of Project	GDOT Project Support Staff to serve as media contact. DB Team to provide information in advance of traffic impacts
Crisis Communications	General Public	Whenever Necessary During Project	GDOT PCM to coordinate with DB Team
Responding to News Media Inquiries	General Public (via media)	Duration of Project	GDOT Project Support Staff to serve as media contact
Electronic Communications	All Audiences	Duration of Project	DB Team with oversight from GDOT PCM
Special Events Highlighting Project Milestones		Groundbreaking and Open to Traffic	DB Team and GDOT Project Support Staff to coordinate with staffing by appropriate technical staff
Print Materials	All Audiences	Duration of Project	DB Team with oversight from GDOT PCM
Project Site Visits	Special groups	On Occasion During Construction Period	DB Team to coordinate with staffing by appropriate technical staff
Project Kiosks	All Audiences	Duration of Project	DB Team with oversight from GDOT Communications

4 ENVIRONMENTAL

4.1 General Requirements

The DB Team shall comply with all environmental laws, regulations, and policies set forth by the federal, state, and local agencies with jurisdiction over the construction activities associated with the Design-Build Project as described in the approved Environmental Documents and permits. The DB Team shall follow all pertinent policies and procedures as described in GDOT - Environmental Procedures Manual and other GDOT sources that describe the environmental process for State Aid Projects. The DB Team shall be responsible for coordination with GDOT, and other required Governmental Entities to ensure that commitments made during the environmental review are being met. Coordination with Governmental Entities shall be conducted by GDOT unless otherwise stipulated and authorized by GDOT to the DB team to contact Governmental Entities directly. The DB Team shall be responsible to reassess Project impacts and for additional associated costs incurred due to any changes in the Project impacts as described in the approved Environmental Document. GDOT shall be responsible for completing the initial Environmental Documents and resubmitting the Environmental Documents and permits to the appropriate Governmental Entities. The associated impacts related to any design element developed by the DB Team that requires additional permitting or that changes previous Environmental Document determinations will be the responsibility of the DB Team, unless otherwise stipulated by GDOT.

GDOT has identified the impacts and the permits anticipated as stipulated in the Reference Information Documents and throughout this RFP. These impacts and any additional impacts realized in the DB Teams design shall be captured in an Environmental Resources Impact Table (ERIT). The DB Team will be responsible for inserting the ERIT into the plans. Its content and accuracy will be confirmed by GDOT staff responsible for environmentally certifying the project.

The DB Team shall execute the Environmental Commitments required by the approved Environmental Documents, DB Documents, Governmental Entities, Governmental Approvals, and all applicable federal and state laws and regulations.

The DB Team's obligation regarding Governmental Approvals and laws, including environmental laws and regulations, and the DB Team's obligation for environmental compliance is set forth in Volume 2, Section 4.1. Limits of the Project and Proposed Right of Way will be described in the approved Environmental Document.

The DB Team shall cause Work to comply with approved Environmental Document, permit, and compliance requirements for any additional actions throughout the Term of the DB Documents. The DB Team shall monitor and document Work activities so that documents providing evidence for compliance are available to Governmental Entities (as applicable) and GDOT for inspection at any time. Evidence of compliance activities may include photo documentation and other appropriate methods to demonstrate

compliance. The DB Team shall execute the environmental mitigation plan, which lists responsible parties for environmental commitments detailed in the approved Environmental Document as agreed on by GDOT and/or other approval agencies.

The DB Team will commit to explore the use of environmentally sustainable practices and/or materials in the development of the Project.

If the Environmental Documents have not yet been approved, the alternative is not "selected"; therefore, the "No-Build" option is still a viable alternative for the Project.

If the "No-Build" alterative is selected, the Project will be terminated according to Article 19 of the Design-Build Agreement.

4.2 Environmental Approvals

4.2.1 Responsibilities Regarding Environmental Documents

Environmental Documents shall be prepared and approved by GDOT prior to the contract award. Restrictions and conditions as applicable to each project site are described in Attachment 1-1. Such approvals may require addendum, amendment, or supplement as the Work progresses or in order to accommodate actions not identified in the approved Environmental Document or covered specifically by existing resource agency coordination and permits.

GDOT shall be responsible for the approval of the required Environmental Documents, as stated in Table 4-1. Associated impacts related to any design element developed by the DB Team that requires additional permitting or that changes previous Environmental Document determinations will be the responsibility of the DB Team, unless otherwise stipulated by GDOT.

The DB Team shall follow GDOT policies and procedures when conducting these activities for the Project.

If the DB Team's Design Documents deviate from the plan set incorporated into the approved Environmental Documents, then GDOT and/or Governmental Entities will need to conduct an assessment to determine whether the approved Environmental Documents remain valid. DB Team shall provide information to support evaluation of the deviations from the plan set incorporated into the approved Environmental Documents The DB Team shall facilitate a meeting with GDOT within 45 days of NTP 1 to discuss potential deviations from the approved Environmental Document. The DB Team will be responsible for ensuring compliance with the conditions and schedules set forth in amendments to any approved Environmental Documents due to deviations in the plan set incorporated into the approved Environmental Documents in the Design Documents..

The DB Team assumes all risk arising out of or related to deviations from the plan set incorporated into the approved Environmental Documents. The DB Team is

encouraged to minimize deviations from the plan set incorporated into the approved Environmental Documents. The DB Team shall be responsible to provide all information reasonably required to support evaluation of deviations from the plan set incorporated into the approved Environmental Documents and to comply with all policies and procedures of GDOT and Governmental Entities having jurisdiction over the Project. GDOT shall be responsible for all coordination of environmental studies with appropriate Governmental Entities. The DB Team is responsible to provide GDOT with the information reasonably required for coordination with Governmental Entities. The DB Team is required to have staff that meet the GDOT environmental prequalification requirements.

The approval time frames for Environmental Documents are listed in Table 4-1 and 4-2. The Tables below do not include any required public comment period and responding to the public comments. GDOT will coordinate and provide approved documentation to the appropriate Governmental Entities. The review and issuance time periods listed in Table 4-1 and 4-2 are per agency and may not occur concurrently. GDOT reserves the right to request to revisions as needed to meet Governmental Entity approval. The timeframe for the development of Environmental Documents are subject to the extent of change proposed by the DB Team; therefore, GDOT reserves the right to develop schedule durations as appropriate after receipt of the DB team's Design Documents.

Table 4-1 GDOT Led Environmental Approval

Document	Governmental Entity Approval Time Frame	Reviewing Governmental Entity
Ecology Report and Addendum	Review period 1: 30 days Review period 2: 14 days	GDOT
	30 days	USACE
	45 days (informal Section 7)	USFWS
	135 days (for formal Section 7)	USFWS

	45 days (for protected species - for Fish and Wildlife Coordination Act concurrence)	USFWS
Section 106 (history and archaeology)	30 days	GDOT
	45 days	USACE
	30 days	State Historic Preservation Office (SHPO)

4.2.2 GDOT Review and Approval of Environmental Permits

The DB Team shall be responsible for preparing required permits and permit modifications as stated in Table 4-2. The DB Team is responsible to obtain all other permits not included in Table 4-2 to meet the requirements of the DB Documents. GDOT will be responsible for reviewing the permits and permit modifications and submitting to the appropriate Governmental Entities, unless the applicant is listed as the DB Team or otherwise stipulated by GDOT. Documentation not meeting current submission standards or requirements of Governmental Entities will be returned to GDOT, and shall be revised at DB Team's cost. GDOT reserves the right to review, comment on, require revisions to, and reject for resubmission documentation submitted to GDOT by the DB Team for environmental compliance or approval. The agency review time frame for permits is specified in Table 4-2. The review and issuance time periods listed in Table 4-2 for DB Team-Led Approvals do not apply to any revisions of the new permit applications proposed by the DB Team's Design Documents.

One Section 404 permit shall be prepared per project site. GDOT will be responsible for purchasing all stream/wetland mitigation credits and protected species mitigation.

Table 4-2 DB Team-Led Environmental Permit Approval

Permit Required	Agency Review and Issuance Time Period (Calendar Days)***	Listed Applicant	Preparer of Application
United States Army Corps of Engineers (USACE) Section 404			
* Section 404 General Permit	140	GDOT	DB Team
** Section 404 Individual Permit	240	GDOT	DB Team
Subsurface testing of all Underground Storage Tanks and Hazardous Materials	150	GDOT	DB Team
National Pollutant Discharge Elimination System (NPDES) Construction General Permit (GAR100002), Notice of Intent	14	DB Team	DB Team
NPDES Construction General Permit (GAR100003), Notice of Intent	90	DB Team	DB Team
NPDES Construction General Permit (GAR 150000), Notice of Termination	90	DB Team	DB Team
Georgia Stream Buffer Variance	150	GDOT	DB Team

* This applies to Section 404 permitting and if additional impacts are incurred after the permit has been approved, a new permit that covers all impacts may be required at the discretion of USACE and the original review times apply to the new permit. No work is authorized in the areas of the previous permit until the new permit is approved and construction authorization is received.

** This applies to Section 404 permitting impacts which may exceed the cumulative threshold for a General Permit.

*** The review and issuance time periods shall commence once a completed permit package that complies with the requirements of the DB Documents is accepted by GDOT and submitted to the issuing agency and end once the permit is issued by the appropriate Governmental Entity. Therefore, the DB Team shall schedule several review periods to ensure proper planning to accomplish the entire process for each required permit. Each GDOT review period is thirty (30) Days. Should the Submittal not be complete or rejected as provided in Section 23, each subsequent review period shall be fifteen (15) Days, and is excluded from the timeframe in Table 4-2 above.

The above permits and review times do not contemplate offsite plant or other offsite activity that DB Team may propose for use in construction or other non-permanent construction.

4.3 Required Submittals

Refer to Volume 2.

5 RIGHT OF WAY (ROW)

5.1 General Requirements

This section sets forth the activities assigned to the DB Team, including pre-acquisition and acquisition activities, and designates which activities GDOT will conduct. This section also sets forth the requirements applicable to the work assigned to the DB Team related to the acquisition of ROW. DB Team to provide all services necessary to acquire title to the ROW, in form and substance acceptable to GDOT, in the name of the Georgia Department of Transportation; relocation of displacees; and clearance/demolition of the improvements from the ROW, as more fully described in the following sub-sections.

The DB Team's ROW staff and/or DB Team will function as independent contractors while acquiring the ROW.

5.2 Administrative Requirements

ROW shall be acquired in accordance with State and/or Federal Laws (depending on fund source) and in conformance to FHWA and/or GDOT policies, procedures, and guidelines (depending on fund source).

Pursuant to the applicable State and/or Federal regulations, the DB Team shall:

- Acquire ROW parcels for the Project on behalf of GDOT subject to GDOT's rights of review, approval, and audit;
- Maintain adequate access to all properties at all times, or until relocation is completed
- Maintain Utility service to occupied properties at all times, or until relocation is completed.

DB Team shall maintain a complete and current set of approved ROW plans for public use.

GDOT will either provide the DB Team any GDOT forms referenced in this section, or make them available upon request.

All ROW activities shall be completed and documented in compliance with all applicable State and/or Federal Laws, including the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (Uniform Relocation Act), and the rules and regulations implementing the Uniform Relocation Act.

In the event the DB Team does not follow the provisions of 49 CFR Part 24 of the Uniform Relocation and Real Property Acquisition Act of 1970 (The Uniform Act) in the performance of the acquisition and/or relocation processes for the project, fails to obtain

or create any necessary written documentation in the right of way parcel file(s) or violates any requirements of the Uniform Act that results in the project losing federal funding on a parcel(s) or the project in general, the DB Team shall be responsible for any and all such loss of federal funds and all expenses determined to be ineligible for federal reimbursement due to DB Team's failure to comply with the provisions of the Uniform Act (This is applicable to Federal-Aid Design-Build projects).

5.3 DB Team's ROW Scope of Services

DB Team shall complete all administrative activities and prepare all documentation sufficient for DB Team to acquire the ROW.

Upon DB Team request to GDOT, GDOT will request that the Office of Attorney General assign an approved Special Assistant to the Attorney General (SAAG) to conduct the title work, closings, condemnations, and any related legal activities.

DB Team shall not, without prior approval, initiate negotiations of the ROW until the ROW plans for the applicable constructible segment have been approved by GDOT, and the constructible segment has environmental clearance.

DB Team shall not exceed 10% in condemnations of the total parcels required for the Project, without prior written approval from GDOT.

If DB Team and the landowner cannot negotiate a settlement, acceptable to GDOT, then GDOT will enter into an administrative review process with the property owner. Only after a reasonable settlement with a property owner cannot be reached through an administrative review, then acquisition of the property through eminent domain may commence. DB Team shall not be permitted to commence any condemnation action through the statutory "Declaration of Taking" on behalf of GDOT.

DB Team shall not begin construction on any parcel of real estate unless property rights for the parcel have been obtained and recorded in favor of GDOT and possession has occurred. ROW possession may be by use of Right of Entry (ROE) as may be granted by governmental agencies, and/or public utility owned companies, and as approved only by GDOT on a case-by-case basis.

The DB Team shall provide condemnation support for 12 months after filling of petition but not to exceed Final Acceptance.

The ROW Project Manager (PM) shall be responsible for ensuring that the required ROW is free of obstructions prior to construction commencing on any segment of the Project.

5.4 Responsibilities of DB Team

DB Team shall be responsible for the costs of services and preparation of documentation for ROW acquisition, related relocation assistance for the Project, and

property demolition and removal. The work related to ROW acquisition includes, but is not limited to ROW plan development, surveying, environmental assessment, testing and remediation, appraisal, other necessary valuation or damage impact studies, conceptual stage study, negotiations, acquisitions, closing package preparations, court coordination services, and condemnation petition preparations. The DB Team shall also be responsible for relocation advisory assistance, as well as demolition or removal of obstructions within required ROW in compliance with all applicable State and/or Federal laws.

The DB Team entering into negotiations with a property owner to use their property outside of the ROW acquisition limits for mobile work trailers, storage, equipment, etc. will be strictly between the DB Team and the property owner and is to in no way to affect the negotiations of any parcel acquisition required for the Project. GDOT shall not be obligated to exercise its power of eminent domain in connection with DB Team's acquisition of any such temporary right or interest, and GDOT shall have no obligations or responsibilities with respect to the acquisition, maintenance or disposition of such temporary rights or interests.

5.5 Responsibilities of GDOT

GDOT will have the following responsibilities in connection with acquisition of ROW:

- Just and adequate compensation (i.e. negotiated settlements, condemnation jury awards).
- Provide final approval, where final approval is warranted, for all negotiation settlements, and relocation assistance payments.
- GDOT will provide a staff ROW oversight manager and/or Administrative Review Officer to serve as first point of contact, and who will be responsible for approving all negotiated settlements.
- Provide payment for SAAG services and necessary expert witnesses.

5.6 GDOT Project Monitor/Reviewer

In addition to GDOT's review and approval authority, the DB Team's ROW PM will audit, review and pre-approve all negotiations, files, settlements, etc. GDOT General Office staff will be the only authorized persons allowed to sign the Option Agreements and any Counter Offer Settlements.

5.7 Responsibilities of the Office of the Attorney General

The parties hereto acknowledge the statutory requirements that the Attorney General of the State of Georgia has exclusive authority to represent and defend GDOT, through the appointed SAAG. In its role as attorney for GDOT, the SAAG has the responsibility to:

- Represent GDOT in all condemnation and eviction proceedings

- Coordination with GDOT on all legal matters concerning acquisition processes, including all negotiated legal settlements
- Analyze recommended parcel values and/or appraisal issues
- Provide additional legal advice and opinions as needed by GDOT
- Jury trials including determination of expert witnesses and all appeals
- Preparation, obtaining, and filing of all necessary legal documentation for eviction of property owners or tenants.
- Prepare preliminary and final title opinions
- Conduct closings within 90 days

5.8 ROW Acquisition Plan

DB Team shall prepare a ROW Acquisition Plan within 30 days of NTP1. The ROW Acquisition Plan shall set forth DB Team's organization including names, titles and qualifications of Key Personnel and other ROW personnel, integration of the ROW schedule into the Project schedule, interface between design and ROW activities, documentation and reporting, quality control procedures and quality review standards.

The ROW Acquisition Plan shall contain the following:

Identify personnel and provide a copy of the GDOT Office of ROW certification of the proposed ROW PM, appraisers, other valuation experts, relocation negotiation agents, relocation benefits specialist, pre-acquisition agent, conceptual stage study preparer, condemnation court coordinator, condemnation petition preparer, property manager (Asbestos Inspector, Asbestos Abatement, Demolition, and UST Removal), negotiators, and any additional ROW personnel whose services will be required. All of the above must be in good standing with GDOT Office of ROW.

All ROW personnel used on this project must be certified by the GDOT Office of ROW for the appropriate level for the scope of work being performed.

The ROW Acquisition Plan shall establish the specific means by which DB Team will:

- Provide sufficient prequalified personnel (including an organizational chart) to achieve, in accordance with the Project schedule, the goals and milestones established for ROW acquisition, relocation assistance, appraisals, and clearance/demolition of the improvements from the ROW.
- Provide relocation advisory assistance such as finding replacement properties, and offering special assistance, including ADA requirements, if applicable.
- Provide administrative support.
- Provide a Conceptual Stage Study, if applicable.
- Provide translation for foreign language, visually impaired, or hearing impaired, as necessary.

- Provide documentation and reports.
- Procure, distribute and explain GDOT acquisition and relocation brochures as approved by GDOT and/or FHWA.
- Establish, implement, and maintain quality control procedures and quality review standards for the acquisition for ROW; prevent fraud, waste, and mismanagement.
- Provide constructible segments plan

DB Team shall update the constructible segments plan including the organization chart whenever changes in the Plan occur.

5.9 Schedule and Review Procedures

The Project schedule shall indicate the date to begin the acquisition activities of the ROW and the anticipated completion date of acquisition activities for each parcel. GDOT shall be advised of all additional properties and temporary rights or interests in real property to be acquired by the DB Team. In developing the Project schedule, the DB Team will give priority to the acquisition of parcels that have significant impact on the Project schedule and/or affect the critical path (i.e. relocation parcels, parcels with improvements, and property management).

The DB Team shall provide monthly ROW parcel status updates to GDOT.

In developing the Project schedule, DB Team shall incorporate the following applicable time periods for GDOT reviews to include:

- ROW plans approval (45 Days) GDOT
- ROW plan revisions approval (15 Days) GDOT
- Assignment of review appraiser (10 Days)
- Conceptual stage study review (30 Days)
- Appraisal review (30 Days)
    - No more than 8 appraisal packages can be submitted to GDOT for review within a 30 day period
- Relocation benefits package check review (30 Days)
    - No more than 8 relocation benefits packages can be submitted to GDOT for review within a 30 day period
- Negotiations (60 Days)
- Negotiation settlement amount approval (10 Days)
- Administrative review (30 Days)
    - No more than 4 administrative reviews can be requested of GDOT within a 30 day period
- Review of condemnation petition (60 Days)
    - No more than 8 condemnation petition packages can be submitted to GDOT for review within a 30 day period

GDOT and will not begin review until the submittal package is complete. If any submittal is determined by GDOT to be incomplete or to be revised, the submittal will be returned and the timeframe given above shall start over for each re-submittal.

Schedule delays resulting from inadequate or incomplete appraisals, specialty reports, ROW Plans, negotiation packages, relocation packages, and condemnation petitions, shall be the responsibility of DB Team.

5.10 Acquisition Process Summary

DB Team's major activities and services to be provided with respect to the acquisition of the ROW shall include, but are not limited to the following:

- ROW plans development, if applicable.
- ROW budget estimates and updates, if applicable.
- Title related activities, if applicable.
- Appraisals and/or other valuation or damage study reports, if applicable.
- Relocation benefits package preparations, if applicable.
- Negotiations
- Relocation advisory assistance
- Condemnation petition preparations
- Condemnation coordination services
- Demolition or removal of obstructions to clear required ROW\
- Documentation and document control
- Monthly progress reports
- ROW administration and management
- ROW quality management
- Obtaining all ROE's, as necessary

5.11 DB Team Conflict of Interest

If at any time, DB Team or to the best of DB Team's knowledge directly or indirectly acquires or has previously acquired any interest in real property likely to be parcels of the ROW or the remainders of any such parcels; loans or has previously loaned money to any interest holder in any real property likely to be a ROW parcel and accepts as security for such loan the parcel, or the remainder of any such parcel that is not a whole acquisition; or purchases or has previously purchased from an existing mortgagee the mortgage instrument that secures an existing loan against real property likely to be a ROW parcel, or the remainder of any such parcel is employed by or acts as a representative of any property owner or tenant which right of way or easement necessary for the Project will be negotiated then the DB Team shall promptly disclose the same to GDOT. In the case of acquisitions, loans or mortgage purchases that occurred prior to the Project letting, such disclosure shall be made within fourteen (14) Days after Project letting.

In the event that the DB Team, or any subsidiary or parent company of the DB Team, acquires a real property interest, whether title or mortgage, in parcels of the ROW Properties, the real property interest acquired or a release of mortgage as the case may be, shall be conveyed to the State of Georgia by condemnation. Any property interests acquired within 36 months prior to NTP1 will deem the DB Team ineligible to bid on the project at the Department's discretion.

In the event that the DB Team, or any subsidiary or parent company of the DB Team, is employed by or acts as a representative of any property owner or tenant which right of way or easement necessary for the Project will be negotiated, the DB Team must immediately cease that relationship or activity.

5.12 Meetings

DB Team shall conduct and attend meetings as requested by GDOT. Meetings may include, but are not limited to property owner meetings and property acquisition status meetings. At such meetings DB Team shall provide exhibits, take minutes, and distribute minutes, as requested by GDOT, within five (5) Calendar Days of the meeting. Minutes will not be finalized until an adequate comment period of five (5) days has been allowed.

5.13 Documentation and Reporting

DB Team shall provide GDOT with all specific reports and supporting documentation for review and approval during the acquisition process.

All correspondence with GDOT relating to acquisition of real property shall include a heading with the following information (at a minimum):

- County
- Project number(s)
- PI number(s)
- Parcel number
- Name and address of record owner(s), tenant, or other interest holder

All correspondence with property owners relating to acquisition of real property shall be on GDOT Letterhead and include the following information (at a minimum):

- County
- Project number(s)
- PI number(s)
- Parcel number
- Name and address of record owner(s), tenant, or other interest holder
- Name and contact information of ROW service provider

In administering and managing its ROW activities, DB Team shall:

- Maintain parcel records on file of all aspects of the acquisition process in accordance with GDOT requirements and applicable State and/or Federal Laws. Each negotiation parcel file shall include all documents required by GDOT.

- Provide monthly summaries (or as requested) for the cost of ROW acquisition and related relocation assistance, including amounts authorized and amounts paid on a parcel-by-parcel basis and budget forecasting on an overall Project basis.
- Maintain and electronically transmit to GDOT, in a format acceptable to GDOT, monthly status reports (or as requested) including pre-acquisition, acquisition, relocation, and demolition or removal of improvement status.
- Prepare and submit electronically to GDOT, on a monthly basis (or as requested), a spreadsheet that contains ROW specific data.

5.14 Pre-Acquisition Activities

DB Team shall adhere to the GDOT ROW Manual for pre-acquisition activities.

5.14.1 ROW Plans and Engineering

- DB Team shall adhere to GDOT's Plan Presentation Guide, the GDOT ROW Manual and any current GDOT ROW plans checklist for the development of the ROW plans.
- Upon approval from GDOT, the ROW plans may be prepared in separate constructible segments.
- DB Team shall stake and flag all required ROW to include all temporary and permanent easements in accordance with the GDOT Automated Survey Manual and prior to beginning negotiations with property owner(s), and restake such areas as requested by property owner or GDOT.

5.14.2 Title Services

DB Team shall provide to the assigned SAAG one (1) full size and one (1) half size set of the preliminary ROW plans in order for the SAAG to procure preliminary title reports and owner verifications prior to negotiations. DB Team shall adhere to the GDOT ROW Manual, and shall also comply with the following requirements:

- Review the preliminary title commitment or report to ensure that all current owners of record title are contacted and that negotiations or condemnation actions are conducted with all appropriate parties.
- Work with the current owners of record to each parcel or interest in a parcel or their designee and all other appropriate parties to clear any title exceptions or exclusions not acceptable to GDOT.

5.14.3 Introduction to Property Owners

DB Team shall prepare and send out initial contact letters of introduction for both property owners and displacees. The letters shall clearly describe the Project, GDOT's need for the owner's property, and shall include the name and telephone number of a DB Team's representative. The forms for these letters shall be approved by GDOT prior to being distributed. Property owners or displacees unable to read or understand the notice shall be given appropriate translation.

5.15 Appraisals

5.15.1 Appraisal Services

DB Team shall provide GDOT with fair market value appraisals. All appraisals shall be prepared in conformance with acceptable appraisal methods/standards (including the Uniform Relocation Act), and in accordance with professional appraisal methods and applicable GDOT and/or FHWA policies and procedures. In addition, DB Team's shall adhere to the GDOT ROW Manual, and shall also comply with the following requirements:

- Select appraisers from GDOT's prequalified list of appraisers as per the appropriate level as determined by the GDOT review appraiser. GDOT shall have final approval of the selection of each appraiser submitted by DB Team.
- Obtain back-up appraisal reports as necessary and per GDOT ROW Manual guidelines.
- Select certain specialty valuation and cost estimators as may be required by the assigned review appraiser.
- Establish personal pre-appraisal contact with each owner of record title and each occupant, and document all contacts.
- Contact the record title owners or their designated representatives, by telephone, to offer them the opportunity to accompany the appraiser on the appraiser's inspection of the parcel, and maintain a record of all such contacts in the parcel file.
- Obtain and include in the appraisal copies of all written leases, licenses and other occupancy agreements, including outdoor advertising/sign agreements, in order to identify lessees, licensee and other occupants with potential compensable interests in each parcel and to determine the value of each such interest.
- Coordinate with the GDOT review appraiser regarding corrections and/or additional information that may be required for a particular appraisal.
- Prepare a report by an environmental professional that meets ASTM E-1527-05, Standard Practice for Environmental Site Assessments: Phase 1 Environmental Site Assessment Process, documenting the environmental condition of each parcel, which may be based on field investigations and/or historical review, as appropriate for the particular parcel. The report shall be completed in coordination with the appraiser(s) and shall be available to the appraiser(s). A Phase I environmental site assessment shall be performed for all properties. If it is determined that there is a potential environmental risk based on the Phase I report then a Phase II investigation shall be performed. Prepare timely written notification to GDOT of any environmental or other concerns associated with the ROW or additional properties to be acquired that could require environmental remediation or other special attention or which would cause a report to be prepared.
- Cause the appraiser(s) to prepare updated appraisals when required by GDOT or as needed during eminent domain proceedings. An updated appraisal package shall comply with Uniform Standards of Professional Appraisal Practice (USPAP).
- Prepare and deliver to GDOT upon request, a copy of all file documents, as formally requested in discovery motions or request for production.

5.16 Acquisition Activities

5.16.1 DB Team Responsibilities During ROW Negotiations

- Conduct all negotiations in accordance with the requirements of applicable State and/or Federal Laws, including 23 CFR 710 and 49 CFR 24.
- Contact each property owner or owner's designated representative in person and onsite when possible to present the offer, on a pre-approved letter, and all required documentation (title report not more than six (6) months old; appraisal not more than twelve (12) months old). Make no less than three (3) follow-up negotiation contacts with the owner or the owner's representative (one original contact and two follow up contacts). DB Team's Acquisition Manager to make last contacts prior to sending out ten (10) day letter threats of condemnation on each parcel.
- Distribute to all property owners and displacees affected by the Project, GDOT-approved informational brochures.
- Identify lessors, lessees, licensees, occupants, or other parties with potential compensable interests including outdoor advertising sign owners, and, if appropriate, after consultation with GDOT, negotiate with such parties for the acquisition of their compensable interests.
- Verify the property owners, lessee, licensees, occupants, and other holders of compensable interests. Confer with and transmit to GDOT any settlement proposals from property owners, lessees, licensees, occupants, or other holders of any compensable interest, as applicable, including a detailed recommendation from DB Team. GDOT will determine whether to accept any settlement proposal. Delivery of any settlement proposal and DB Team's recommendation to GDOT shall occur within seven (7) Days of DB Team's receipt of the settlement proposal from the interest holder. GDOT shall provide a settlement decision to DB Team within ten (10) Days. DB Team shall then provide a response to the interest holder within five (5) Days.
- Send an administrative review hearing notification (ten (10) day letter) to the interest holder for those negotiations that are unsuccessful. In the event the interest holder requests an administrative review hearing, GDOT will facilitate the process. GDOT will then provide the results of the administrative review hearing to the DB Team and the interest holder.
- Provide timely (i.e., not more than five (5) Calendar Days after inquiry) response to the verbal or written inquiries of any property owner, lessee, licensee, occupant or other holder of a compensable interest, as applicable.
- Create and maintain a complete negotiation parcel file for each interest holder (separately from the relocation files), and in conformance with GDOT ROW Manual. All original ROW documents must be retained and properly secured in DB Team's Project office or as otherwise approved by GDOT, and shall be accessible by GDOT upon request.
- Submit complete (closed or condemned) negotiation parcel files to GDOT for review only after a thorough review is performed by the DB Team's ROW PM.
- Be open to all reasonable settlement proposals (that comply with the regulations as outlined in this section) from the interest holders, which are feasible and help expedite the ROW acquisition process. DB Team understands that GDOT and

FHWA encourage solutions which satisfy the interest holder and promote the success of the Project.

5.16.2 DB Team Responsibilities During Relocation Assistance

DB Team shall coordinate and perform the administrative requirements necessary to relocate any occupants and/or their personalty from ROW. All Work prepared by DB Team with respect to relocation assistance shall be performed in accordance with applicable State and Federal Laws, the Uniform Relocation Act, and in accordance with all provisions of this Agreement.

DB Team's major activities with respect to the relocation assistance of occupants from ROW shall include is but not limited to:

- Prepare a Conceptual Stage Study.
- Prepare a Relocation Plan in accordance with the GDOT ROW Manual.
- Monitor all relocation assistance activities.
- Prevent fraud, waste and mismanagement.
- Assist with all GDOT requests and be responsible for carrying out decisions made by GDOT.
- With respect to determining relocation assistance benefits and preparing relocation assistance benefits packages (offer package and any replacement housing reports), all packages shall be prepared in conformance with applicable State and/or Federal Laws and regulations, 49 CFR, Part 24 – the Uniform Relocation Act, FHWA and/or GDOT policies and procedures. Such Relocation Specialists shall be thoroughly familiar with the Uniform Relocation Act in regards to determining relocation assistance benefits. In addition, the GDOT approved format for relocation assistance benefits packages shall be used and demonstrated in all forms, letters, and package documentation. Measures shall be taken to protect the integrity of the relocation assistance benefits determination process, such as designating a separate qualified individual to administer the relocation assistance benefits (other than the individual determining the relocation assistance benefits). Relocation assistance benefits packages must be submitted to GDOT ROW for review and approval prior to DB Team proceeding with administering any relocation assistance benefits.
- DB Team shall provide relocation assistance strictly in accordance with the State and/or Federal Laws and the Uniform Relocation Act. With respect to administering relocation assistance benefits, DB Team shall:
- Provide written notice to all property owners, lessees, licensees, occupants, and potential relocated person(s) regarding eligible relocation assistance; provide them with a relocation assistance brochure that has been approvedby GDOT; perform relocation interviews, complete and maintain interview forms and discuss general eligibility requirements, programs, and services with potential displacees; and maintain a thorough written record of all contacts.
- Provide in writing to GDOT any questions as to the eligibility of a potential relocated person(s).
- Contact and provide relocation assistance to those parties affected by the ROW acquisition.
- Locate information, evaluate and maintain files on comparable available housing, commercial, retail, and industrial sites.

- Calculate replacement supplement benefits.
- Compute and submit relocation benefits packages to GDOT for review and approval prior to DB Team's preceding with any relocation activities.
- Perform and complete a Decent, Safe and Sanitary (DSS) inspection for any replacement housing.
- Secure and process any required moving estimates and forms, to be approved by GDOT, for the relocation of personal property.
- Coordinate moves with displacees and/or moving companies in accordance with GDOT procedures and the Uniform Relocation Act.
- Attend all closings on replacement properties, and assure supplemental payments, if any, are properly distributed in a timely manner.
- Process and compute increased interest payments on the mortgage of owner-occupied dwellings, as required.
- Deliver to displacees a 90 Day notice of eligibility letter simultaneous with the delivery of the relocation benefits package. Deliver a 90 Day letter to displacees with the location of the comparable property used to compute the supplement.
- Deliver a 60 Day notice to vacate to displacees after obtaining title to the ROW.
- Notify GDOT immediately if a displacee has not moved after the 60 Day notice to vacate has expired. Prepare a written recommendation to facilitate the displacees' move.
- Be available for any appeals or hearings.
- Prepare relocation payment claim submissions for all displacees and all relocation assistance benefits.
- Verify DSS dwelling criteria on all replacement housing as selected by the displacees.
- Secure dwellings and structures no later than 14 Days after vacancy and protect the ROW following acquisition and relocation.
- Maintain a complete file, separate from acquisition files, on each displacee and make available for immediate inspection to GDOT.
- Be responsible for all relocation activities that may occur after title is secured by condemnation.
- Prepare all correspondence to the displacees or their representative(s) on GDOT's approved letterhead.
- Assist the SAAG with eviction proceedings. Serve notice of eviction proceedings to the occupant(s) of the property who have not complied with move dates. Coordinate the eviction process with the local authorities and accompany the Sheriff's Department when the local authorities are carrying out eviction.

5.16.3 DB Team Responsibilities During Closings

GDOT assigned SAAG will conduct all closings. For purposes of closing services, DB Team shall:

- Assure relocation negotiation agent attends all relocation closings.
- Assure the relocation negotiation agent properly coordinates all assistance payments with the SAAG and GDOT.

- Provide transportation assistance to all interest holders needing transportation services to and/or from the closing.

5.16.4 DB Team Responsibilities For Condemnation Support

DB Team, as directed by GDOT, shall support condemnation efforts undertaken by the GDOT assigned SAAG and further delineated as follows:

- Notify GDOT and document the reason(s) for condemnation, including recommendations for properly obtaining title in consideration of all interest holders.
- List all interest holders in the condemnation petition.
- Coordinate with assigned SAAG on all applicable eminent domain/condemnation activities in accordance with the policies and procedures as described in the GDOT ROW Manual and as required per State and Federal Laws.
- Request an updated title report from GDOT assigned SAAG issuing the original title commitment prior to condemnation.
- Prepare and submit condemnation petitions to the Office of ROW for review by GDOT's Legal Division and make any revisions or corrections, as requested by GDOT.
- Forward, upon GDOT approval, petitions to assigned SAAG for recording with the appropriate Clerk of Superior Court.
- Procure and make available a condemnation court coordinator who shall assist the assigned SAAG in making arrangements for conferences with witnesses prior to trial, appearing at court hearings, perform any other duties necessary in eminent domain proceedings up until six (6) months after Final Acceptance. GDOT will complete all cases not completed within six (6) months of Final Acceptance.
- Procure appraisals and specialty reports, as required for condemnation proceedings, and as acceptable to GDOT and the assigned SAAG.
- Procure and make available any necessary expert witnesses as required by GDOT and assigned SAAG. GDOT will make payment to expert witnesses required by SAAG.
- Arrange for the appearance of all expert witness(es) or fact witness(es) when requested by the assigned SAAG.
- Provide GDOT with a parcel status, on a monthly basis, for all condemnation parcels.
- Provide the assigned SAAG with proper monetary court deposits for Fair Market Value (FMV).

5.16.5 DB Team Responsibilities For Clearance of ROW

Prior to removal or demolition of any buildings, improvements, and/or fixtures, DB Team shall provide to GDOT photographs of the property and all improvements, and other necessary documentation as applicable per GDOT ROW Manual. DB Team shall also provide photos of personalty and items of dispute in and of a quality

suitable for presentation as evidence in court. Following possession of any improved property ROW, DB Team shall:

- Coordinate all property management activities with GDOT ROW property management section.
- Comply with all required government jurisdictions.
- Secure and protect the buildings, improvements and fixtures on the ROW until they are disposed of or demolished. DB Team shall board-up, mow, and winterize as required by GDOT or other governmental applicable laws.
- Coordinate with owners and occupants to assure the clearance of personal property from the ROW has occurred.
- Provide for any insect and rodent control and initiate extermination as required to protect the adjacent properties and rid the ROW from infestations.
- Secure all appropriate governmental approvals required for demolition or removal of improvements. Secure any environmental surveys or tests as may be required by local, State and/or Federal jurisdictions. Notify GDOT in writing of all such activities.
- Prepare necessary documentation for disposal of improvements, fixtures and buildings in accordance with applicable laws and submit the same to GDOT.
- Properly disconnect all utility service(s) including, but not limited to, power, water, gas meter pulls, and sewer caps, at the back of the required ROW at a minimum, prior to any demolition or removal of any buildings, improvements and/or fixtures.
- Process all required forms, documents and permit applications in order to proceed with the timely demolition or removal of any improvements, buildings and fixtures.
- Properly notify GDOT ROW property management section upon completion of the demolition and clearance of all buildings, improvements and/or fixtures.

5.16.6 DB Team Responsibilities For Property Fencing

DB Team shall comply with the specifications found in the latest version of GDOT's Design Policy Manual, and any Supplemental Specifications. Fencing standards for DB Team-provided fencing shall conform to referenced standards. All fencing installed by DB Team shall be preapproved by GDOT prior to installation.

5.17 Early ROW Acquisition

Early ROW acquisitions shall be considered by the DB Team according to the guidelines set forth in 49 CFR 710.503. DB Team shall submit to GDOT a letter of recommendation for any advance "Hardship" purchase requests. GDOT will review all advanced "Hardship" purchase requests.

DB Team shall notify GDOT if an advanced protective buy purchase request would be in GDOT's best interest. GDOT will review all advanced "Protective Buy" purchase requests.

The DB Team shall update GDOT regularly, no less frequently than monthly, on the status of any advanced acquisition purchases, and the DB Team's ROW PM shall track all acquisitions through GDOT's ROW tracking system.

6 UTILITY ADJUSTMENTS

6.1 General Requirements

By Georgia Statutes, utilities, whether public or privately owned, aerial or underground, are permitted by the Department and local governments to be accommodated within the public right of way. To this end, the DB Team will make every effort to avoid utilities. Design/construction techniques that minimize or avoid utility conflicts may involve increased upfront costs; however, those costs may be offset by savings during construction, in addition to the total cost savings for the Project (the Department or local government) and the respective utility owners. This Section 6 establishes procedures and requirements for Utility Adjustments including such processes as coordination with Utility Owners, administration of the engineering, construction and other activities necessary for Utility Adjustments, and required documentation.

Additional guidance for accommodating utilities within the right of way are given in the AASHTO publications: A Guide for Accommodating Utilities within Highway Right of Way, A Policy on Geometric Design of Highways and Streets; the TRB publication: Policies for Accommodation of Utilities on Highway Rights-of-Way; and in GDOT's Utility Accommodation Policy and Standards, current edition.

The Utility Plans are used as the primary tool to identify and resolve utility related conflicts/issues prior to beginning the construction of a Project. Also, when these plans are properly prepared per guidance in this Section 6, they will support the vital coordination required between the DB Team and the Utility Owner during construction.

Utility plan sheets are comprised of completed roadway plan sheets, but shall contain more detailed information featuring existing and proposed utility facilities. Specific requirements for Utility Plans are detailed in this Section 6.

The DB Team shall cause all Utility Adjustments necessary to accommodate the project. GDOT will assist the DB Team in the Utility Adjustment process to the extent as described in the Design-Build Agreement and the Utility Accommodation Manual (UAM). Some utility adjustments may be performed by the Utility Owner with its own forces and/or the Utility Owner's pre-approved design consultants and construction contractors; all others will be performed by the DB Team with its own forces and/or contractors and consultants (subject to the approval rights required by the utility owner for those working on their own facilities). The allocation of responsibility for the Utility Adjustment work between GDOT and the Utility Owner will be specified in the Memorandum of Understanding (MOU) and if needed a Standard Utility Agreement (SUA) or a Contract Item Agreement (CIA)..

6.1.1 Utility Adjustment Relocation Costs

The DB Team shall be responsible for all Utility Adjustment Work associated with the Project, with the exception of Betterment and items explicitly excluded within the MOU's. Utility Adjustment Work shall be included in the DB Team's overall contract cost.

6.1.2 When Utility Adjustment is Required

Utility Adjustment may be necessary to accommodate the Facility for either or both of the following reasons: (i) a physical conflict between the Facility and the Utility, and/or (ii) an incompatibility between the Facility and the Utility based on the requirements in Section 6.2.1 (Standards), even though there may be no physical conflict. The physical limits of all Utility Adjustments shall extend as necessary to functionally replace the existing Utility, whether inside or outside of the Existing ROW and Proposed ROW. Section 6.2.4.2 (Acquisition of Replacement Utility Property Interests) contains provisions that address the acquisition of easements for Utilities to be installed outside of the Existing ROW and Proposed ROW. It shall be the Design-Build Team's responsibility to work with Utility Owners and Utility Owner pre-approved design consultants and construction contractors to accomplish any required Utility Adjustments. The DB Team will be required to select a design consultant and construction contractor from the Utility Owner pre-approved design consultant and construction contractor list in the MOU to accomplish any needed relocation design and construction.

6.1.3 Certain Components of the Utility Adjustment Work

6.1.3.1 Coordination

The DB Team shall communicate, cooperate, and coordinate with GDOT, the Utility Owners, Utility Owner's pre-approved design consultants and construction contractors, property owners, local agencies (Government Entities), locally impacted businesses, and potentially affected third parties, as necessary for performance of the Utility Adjustment Work. The DB Team shall provide advance notification to all impacted local agencies, business and property owners for and planned disruption of service. The DB Team shall coordinate with GDOT for any public outreach for planned utility disruptions as required. The DB Team shall be responsible for assisting in the preparation of all SUA and CIA as required. Utility Agreement Templates can be acquired from the State Pre-Construction Utility Engineer.

The DB Team shall have the responsibility of coordinating the Project design and construction with all Utility Owner's pre-approved design consultants and construction contractors that may be affected. Coordinating responsibilities shall include but not be limited to the following:

- The DB Team shall initiate early coordination with all Utility Owners located within the Project limits. All Utility Coordination shall be performed to GDOT standards by a prequalified firm in Area Class 3.10 - Utility Coordination. Refer to the following website for a list of current prequalified firms:

  http://www.dot.ga.gov/PS/Business/Prequalification/PrequalConsultants

- The DB Team shall be responsible for the cost of Utility Coordination. Coordination shall include, but shall not be limited to, contacting each Utility Owner to advise of the proposed Project; supplemental verification of the locations of existing utility facilities (including the employment of additional Overhead/Underground Subsurface Utility Engineering investigations (SUE)) as needed in determining requirements for the relocation or adjustment of facilities. The DB Team shall be responsible for coordination with the Utility Owner's pre-approved design consultant and construction contractor.

- The DB Team shall meet with all Utility Owners within the project limits, Department's District Utilities Office and the State Subsurface Utilities Engineer (or designee) for a SUE Kick-Off meeting (concurrent with the first utility coordination meeting) within 15 days of the Notice to Proceed 1 to gain a full understanding of what is required with each submittal and the overall project utility coordination processes.

6.1.3.2 Betterments

Replacements for existing Utilities shall be designed and constructed to provide service at least equal to that offered by the existing Utilities, unless the Utility Owner specifies a lesser replacement. Utility Enhancements are not included in the Work; however, any Betterment work furnished or performed by the DB Team as part of a Utility Adjustment shall be deemed added to the Work, on the date the SUA or CIA providing for same becomes fully effective. The DB Team shall perform all coordination necessary for Betterments.

- Titles 32-6-170 and 32-6-173, of the O.C.G.A., authorizes the Department to pay the cost of removing, adjusting, and relocating any public utility given certain provisions are met. Such provisions for reimbursement are detailed in Section 4.2 of the UAM. However, all such costs the Department is authorized to pay or participate in shall be limited to the costs of removing, adjusting, and relocating those facilities which are physically in place and in conflict with proposed construction and, where replacement is necessary, to the costs of replacement in-kind. That proportion of the costs representing improvement or betterment in a facility shall be excluded from the costs eligible for payment or participation by the Department, unless required to meet current laws, regulations, industry standards or codes.

- **Contract Item Agreement (CIA)** - Used for including utility work in the Department's project and performed by the DB Team. Any utility system upgrades, betterments, or non-reimbursable relocations (not covered in the Cases specified in Section 4.2.A.2 of the UAM) to be installed in the Department's project shall require reimbursement to the DB Team from the Utility.

6.1.3.3 Protection in Place

The DB Team shall be responsible for Protection in Place through the use of a GDOT approved Retention Request of all Utilities impacted by the Project as necessary for their continued safe operation and structural integrity and to otherwise satisfy the requirements described in Section 6.2.1 (Standards). The DB Team shall submit to GDOT for review and acceptance a Retention Request for each utility that will remain in place in accordance with GDOT's *Utility Accommodation Policy and Standards Manual*.

6.1.3.4 Abandonment and Removal

The DB Team shall make all arrangements and perform all work necessary to complete each abandonment or removal (and disposal) of a Utility in accordance with the requirements listed in Section 6.2.1 (Standards), including obtaining Governmental Approvals and consent from the affected Utility Owner and any affected landowner(s), or shall confirm that the Utility Owner has completed these tasks.

The Utility shall notify the DB Team and the Department in writing of the intention to abandon its facilities in place. Such abandoned installations within the right-of-way shall remain the responsibility of the Utility. The Department may give reasonable notice to require the removal of abandoned utility facilities and restoration of the right-of-way, or the filling of any such facility by an approved method, when necessary to avoid interference with the operation, maintenance or reconstruction of the highway. Any utility facility that the Utility requests to abandon shall conform to the following:

- All underground non-metallic utility facilities to be abandoned shall be locatable using a generally accepted electro-magnetic locating method to enable pipe and cable locates.

- Any underground utility facility, approved or elected to be abandoned in place, larger than 2 inches up to 6 inches, inside diameter, shall be plugged at all open ends of the abandoned facilities. All facilities with an inside diameter larger than 6 inches shall be grout filled 100%. A request for an exception to this policy may be made to the State Utilities Engineer on a case by case basis when proven that no detriment will come to the roadbed by doing so.

Hazardous Utility Facilities to be Abandoned

Whenever an existing utility facility contains a hazardous material and such facility exists in the public rights of way of any highway, road, or street, and the Utility determines that such facilities will no longer be utilized, the Utility that owns and operates the utility facility shall submit the Request For Retention Of Abandoned Facilities Containing Hazardous Materials form (see Appendix) along with a permit through Georgia Utility Permitting System (GUPS) to the Department. Upon request for abandonment, the Utility shall have the discretion to:

- Remove and dispose of the asbestos pipe in accordance with federal laws and regulations;

- Leave the asbestos pipe in place and fill it with grout or other similar substance designed to harden within the pipe; or
- Allow the pipe to remain undisturbed in the ground and take no further action.

At the request of the Department or Utility, any hazardous material left in the right of way as authorized by the approval of the permit and accompanying Request for Retention of Abandoned Facilities Containing Hazardous Materials form shall be marked as to be locatable. The approved permit and form will indicate how the abandoned facility will be located. The Utility shall not relinquish the ownership of said facility as stated in Official Code of Georgia Annotated (OCGA) Section 25-9 and Section 32-6-174; it shall be deemed abandoned and out of service. If the Utility selects either item (b) or (c) above as part of a new utility installation request and said abandoned facility is later determined, at any time in the future, to be part of a highway improvement or project that the Department is undertaking or plans to undertake, or is in conflict with any other operation or activity upon said rights of way, by either the Department or others, then said facility shall be removed by the Utility in accordance with federal laws and regulations. Any costs, claims, or other liability associated with the owner's decision pursuant to this section shall be borne by said Utility.

The entity shall also provide plans “marked so as to be locatable” with the following at each end of the proposed abandonment.

- X, Y, and Z using the North American Datum of 1983/1994 = NAD83(94) and North American Vertical Datum of 1988 = NAVD88.
- Elevation of top and/or bottom of utility tied to datum.
- Elevation of existing grade over end of facility tied to datum.
- Horizontal location referenced to coordinate datum.
- Furnish, install, and color code a permanent above ground marker (i.e., P.K. nail, peg, steel pin, or hub) directly above the centerline of the structure and record the elevation of the marker.
- Elevations shall have an accuracy of +/-0.05-ft.
- Horizontal data accurate to within +/-0.2-ft.

- Fiberglass composite markers, or equal, will be required to be installed at the right of way limits at the beginning and ending of proposed abandon facility and placed at intervals no to exceed 500 ft. in between. Markers shall be a minimum of 62” in length and 3.75” in width or diameter. Warning label shall state the following: Warning, Buried Asbestos line, Call Before you Dig logo, Owner Telephone Number(s), Owner Name, and appropriate horizontal offset distance to the abandoned facility noted.
- When determined by the engineer that flexible markers at the right of way line is undesirable for the area, warning buttons, 3” minimum diameter, with the same information may be permanently affixed on the sidewalk, curb, or at a location directed by the engineer.

6.1.3.5 Service Lines and Utility Appurtenances

Whenever required to accommodate construction, operation, maintenance and/or use of the Project, the DB Team shall cause service line adjustments and utility appurtenance adjustments. On completion of these, the DB Team shall cause full reinstatement of the roadway, including, but not limited to reconstruction of curb, gutter, sidewalks, and landscaping, whether the Utility Adjustment Work is performed by the Utility Owner or by the DB Team.

6.1.3.6 Early Adjustments

Refer to Volume 2

6.1.4 Recordkeeping

The DB Team shall maintain construction and inspection records in order to ascertain that Utility Adjustment Work is accomplished in accordance with the terms and in the manner proposed on the approved Utility Work Plan(s) and otherwise as required by the Design-Build Agreement and the applicable Utility Agreement(s).

6.2 Administrative Requirements

6.2.1 Standards

All Utility Adjustment Work shall comply with all applicable Laws, the Technical Provisions, and *GDOT's Utility Accommodation Policy and Standards Manual*.

6.2.2 Communications

6.2.2.1 Communication with Utility Owners: Meetings and Correspondence

The DB Team is responsible for holding meetings and otherwise communicating with each Utility Owner, Utility Owner pre-approved design consultant and construction contractor as necessary to timely accomplish the Utility Adjustments in compliance with the DB Documents. GDOT may participate in these meetings if requested by the Utility Owner or the DB Team or otherwise as GDOT deems appropriate.

At least seven (7) Days in advance of each scheduled meeting, the DB Team shall provide notice and an agenda for the meeting separately to GDOT and the appropriate Utility Owner. The DB Team shall prepare and distribute minutes of all meetings within seven (7) Days of the meeting with Utility Owners and shall keep copies of all correspondence between the DB Team and any Utility Owner.

The DB Team will be allowed to coordinate with Utility Companies for early coordination of Utility Adjustments.

6.2.3 Worksite Utility Coordination Supervisor

During the construction of the Project, the DB Team shall designate, prior to beginning any work, a Worksite Utility Coordination Supervisor (WUCS) who shall be responsible for initiating and conducting utility coordination meetings and accurately recording and reporting the progress of utility relocations and adjustment work. The WUCS shall be the primary point of contact between all of the Utility companies, the DB Team and the Department. The WUCS shall recommend the rate of reoccurrence for utility coordination meetings and the Engineer will have the final decision on the regularity for utility coordination meetings. In no case will utility coordination meetings occur less than monthly until controlling items of utility relocations and adjustment milestones are completed. The WUCS shall contact each of the utility companies for the purpose of obtaining information including, but not limited to, a Utility Adjustment Schedule for the controlling items of utility relocations and adjustments. The WUCS shall notify the appropriate utility company and/or utility subcontractor and the Department of the status of controlling items of relocations and adjustment milestones as they are completed. The WUCS shall furnish the Engineer, for acceptance, a Progress Schedule Chart, prior to beginning Construction unless otherwise specified, which includes the utility companies controlling items of work and other information in accordance with the Contract documents. Duties and Responsibility of the Worksite Utility Coordination Supervisor, (WUCS):

- Qualifications: The WUCS shall be an employee of the Prime DB Team, shall have at least one year experience directly related to highway and utility construction in a supervisory capacity and have a complete understanding of the Georgia Utilities Protection Center operations, and shall be knowledgeable of the High-voltage Safety Act and shall be trained on the Georgia Utility Facility Protection Act (GUFPA). The Department does not provide any training on GUFPA but will maintain a list of the Georgia Public Service Commission certified training programs developed by other agencies. Currently the following companies offer approved GUFPA training programs:

  Associated Damage Consultants
  Phone: 706.234.8218 or 706.853.1362

  Georgia Utility Contractors Association
  Phone: 404.362.9995

  Georgia Utilities Protection Center
  Phone: 678.291.0631 or 404.375.6209

  H B Training & Consulting
  Phone: 706.619.1669 or 877.442.4282 (Toll Free)

  The Prime DB Team is responsible for obtaining the GUFPA training for their employees.

  Questions concerning the Georgia Public Service Commission GUFPA training program shall be directed to:

Georgia Public Service Commission
244 Washington St. SW
Atlanta, GA 30334-5701
404.463.9784

Ticket Status

During the utility coordination meetings, the WUCS shall collect and maintain the ticket status information to determine the status of all locate requests within the Project limits. This information will be used to assure those planning to use mechanized equipment to excavate or to work within the Project limits are prepared to begin work when they have reported or estimated beginning work. At points where the DB Team's or utility company's operations are adjacent to or conflict with overhead or underground utility facilities, or are adjacent to other property, damage to which might result in considerable expense, loss, or inconvenience, work shall not commence until all arrangements necessary for the protection thereof have been made.

Notice

The names of known utility companies and the location of known utility facilities will be shown on the Plans, or listed in the Overhead/Subsurface Utility Engineering Investigation if performed, or in the Special Provisions; and the WUCS shall give 24-hour notice to such utility companies before commencing work adjacent to said utility facilities which may result in damage thereto. The WUCS shall further notify utility companies of any changes in the DB Team's work schedules affecting required action by the utility company to protect or adjust their facilities. Furthermore, this 24-hour notice shall not satisfy or fulfill the requirements of the DB Team as stated in Chapter 9 of Title 25 of the Official Code of Georgia Annotated, known as the "Georgia Utility Facility Protection Act".

Agenda

The WUCS shall cooperate with the companies of any underground or overhead utility facilities in their removal and relocations or adjustment work in order that these operations may progress in a reasonable manner, that duplication of their removal and relocations or adjustment work may be reduced to a minimum, and services rendered by those parties will not be unnecessarily interrupted. To promote this effort the WUCS shall prepare an agenda for the utility coordination meetings and circulate same 7 business days in advance of the meeting to encourage input and participation from all of the utility companies. The agenda will be prepared by an examination of the Project site and may include photographs of potential/actual utility conflicts.

Submission

Provisions for reporting all utility coordination meetings, the progress of utility relocation and adjustment work milestones and ticket status information shall be reported on a form developed by the WUCS and will be distributed by the WUCS to all of the utility companies as milestones are met and shall be included as part of the Project records. These reports shall be delivered to the Engineer for review, on a monthly basis. The

WUCS shall immediately report to the Engineer any delay between the utility relocation and adjustment work, the existing Utility Adjustment Schedule, or the proposed Utility Adjustment Schedule so that these differences can be reconciled.

The DB Team will be required to utilize prequalified utility consultants and contractors.

6.2.4 Real Property Matters

The DB Team shall provide the services described below in connection with existing and future occupancy of property by Utilities.

Determination of Utility Right-of-Way and Easement – The determination as to the need for replacement right-of-way or easement for utilities will be made as follows:

a. The Department will determine what right-of-way is required for construction of the highway project and will normally provide adequate right-of-way for the existing or typical utility facilities that will be permitted to be accommodated within that right-of-way. The DB Team will coordinate with each Utility to request any special right-of-way requirements necessary for their facilities.

b. If there is not sufficient space for the utility within the right-of-way or easement which will be required for the construction of the project, the DB Team will coordinate with the Utility to verify such circumstance and will obtain a written statement as to whether the Utility desires that the DB Team acquire such additional rights-of-way or easement as may be required for utility relocation under the provisions of the O.C.G.A. § 32-6-172. If the Utility insists on acquiring its own right-of-way or easement, the Utility shall notify the DB Team in writing of such and shall include this acquisition in the Work Plan. Additionally, if the Utility intends to acquire its own right-of-way or easement, it shall be the DB Teams and District Utilities Engineer's responsibility to ensure that the Department's monthly Right-of-Way Status Acquisition Reports be forwarded to such Utility as received from the State Right-of-Way Office. These reports are critical to ensure that the Utility can begin acquiring their required right-of-way or easement soon after the DB Team has completed its negotiations with each affected property owner. In either case, the following method of acquisition described in Section 4.1.C.6 of the UAM shall apply.

Method of Acquisition - It is desirable that replacement right-of-way and easements for utilities be acquired concurrently with acquisition of right-of-way for the highway project.

Adjustment on Projects

a. **Reimbursable Cases** - When the Utility is entitled to reimbursement for the cost of acquisition of replacement right-of- way or easements, the Department will request permission from the Utility, which must be obtained in writing, to acquire necessary utility right-of-way or easements concurrently with its

acquisition of the normal highway right-of-way. If the Utility has some particular reason for insisting on acquiring the right-of-way or easement, this will be included in a Utility Agreement.

b. **Non-Reimbursable Cases** - If the cost of acquisition of replacement right-of-way or easement is not reimbursable, the Department will, at the written request of the Utility, acquire such right-of-way or easement under written agreement and the Utility will reimburse the Department for such cost in accordance with the State law. Any acquisition by the Department will comply with all requirements pertaining to the Department's acquisition of its own right-of-way or easement.

Interest to be Acquired - If the Utility agrees for the DB Team to acquire replacement right-of-way, or easement, the DB Team in conjunction with the Department's Office of Right-of-Way will determine what interest will be acquired and the instrument (i.e., quitclaim, easement limited agreement, etc.) to be used to transfer such interest from the Department to the Utility. The State Right-of-Way Engineer will notify the DB Team, District Utility Engineer and the State Utilities Office as to a determination regarding the Department's agreement to acquire the right-of-way and of what interest is proposed to acquire. The DB Team, in turn, will notify the Utility and District Utility Engineer of that determination and will promptly notify the State Right-of Way Office, with a copy to the State Utilities Engineer, of any exceptions the Utility may make to that determination. The State Utilities Engineer will be responsible for the establishment of Easement Limited Agreements (ELA) with the Utility after determination by the State Right-of-Way Engineer that such ELA is required to complete the rights of way acquisition. A copy of the ELA will be sent to the State Right-of-Way Office for legal recording.

6.2.4.1 Documentation of Existing Utility Property Interests – Affidavits

For each Existing Utility Property Interest within the Existing ROW and Proposed ROW claimed by any Utility Owner, the DB Team shall include an easement deed or an Affidavit of Property Interest in the applicable Utility Work Plan, with appropriate documentation of the Existing Utility Property Interest attached. Any such claim shall be subject to GDOT's acceptance as part of a Utility Work Plan review. Except as otherwise directed by GDOT, the DB Team shall prepare all Affidavits of Property Interest using the standard GDOT form.

6.2.4.2 Acquisition of Replacement Utility Property Interests

Each Utility Owner will be responsible for acquiring any Replacement Utility Property Interests that are necessary for its Utility Adjustments. DB Team shall have the following responsibilities for each acquisition:

- The DB Team shall coordinate with, and provide the necessary information to, each Utility Owner as necessary for the Utility Owner to acquire any Replacement Utility Property Interests required for its Utility Adjustments.
- If any of the DB Team-Related Entities assists a Utility Owner in acquiring a Replacement Utility Property Interest, such assistance shall be by separate contract outside of the Work, and the DB Team shall ensure that the following requirements are met:
    - The files and records must be kept separate and apart from all acquisition files and records for the Proposed ROW and Additional Properties.
    - The items used in acquisition of Replacement Utility Property Interests (e.g., appraisals, written evaluations and owner contact reports) must be separate from the purchase of the Proposed ROW and Additional Properties.
    - Any DB Team Related Entity personnel negotiating the acquisition of Replacement Utility Property Interests must be different from those negotiating the acquisition of Project ROW.

The DB Team is not responsible for Utility Owner condemnation proceedings.

6.2.4.3 Georgia Utility Permitting System (GUPS)

The DB Team and Utility Owners shall cooperate and coordinate for timely submittal of utility permit requests through GUPS to accommodate the following:

- Each Utility proposed to be relocated within the Existing ROW, Proposed ROW and Additional Properties.
- Each Utility proposed to remain in its existing location within the Existing ROW, Proposed ROW and Additional Properties.

Upon receipt of all required information from the DB Team, the Utility Owner shall be responsible to submit utility permit requests through GUPS.

6.2.4.4 Documentation Requirements

The DB Team shall prepare, negotiate (to the extent permitted by this Section 6.2.4 (Real Property Matters), and obtain execution by the Utility Owner of (and record in the appropriate jurisdiction, if applicable) all agreements and deeds described in this Section 6.2.4, including all necessary exhibits and information concerning the Project (e.g., reports, Plans, and surveys). Each agreement or deed shall identify the subject Utility(ies) by the applicable Utility Permit Number, and shall also identify any real property interests by parcel number or highway station number, or by other identification acceptable to GDOT.

6.3 Design

6.3.1 DB Team's Responsibility for Utility Identification

The DB Team bears sole responsibility for ascertaining, at its own expense, all pertinent details of Utilities located within the Existing ROW, Proposed ROW, limits of Additional Properties or otherwise affected by the Facility, whether located on private property or within an existing public ROW, and including all Service Lines.

The DB Team may utilize Subsurface Utility Engineering (S.U.E) process for locating all existing utilities within the project limits to develop the Utility Work Plan.

GDOT will not participate in any of the Preliminary Engineering (PE) costs for the Utility Adjustments.

The DB Team will coordinate reviews of the utility relocation information and obtain acceptance from the Utility Owner and GDOT. The GDOT District Utility Engineer should be kept informed if preliminary plans indicate that no conflict exists, and if the owner concurs with this information, then the owner shall provide a letter of “no conflict” to the DB Team.

6.3.2 Technical Criteria and Performance Standards

All Design Documents for Utility Adjustment Work, whether furnished by the DB Team or by the Utility Owner or pre-approved design consultant, shall be consistent and compatible with the following:

- The applicable requirements of the DB Documents, including Section 6.2.1 (Standards)
- Any Utilities remaining in, or being installed in, the same vicinity
- All applicable Governmental Approvals
- Private approvals of any third parties necessary for such work

The DB Team shall ensure that the Design Documents are complete and include all utility adjustment schedules/utility work plans, utility relocation plans, and associated agreements necessary to address all foreseeable utility impacts that might affect the project. This includes utility issues affecting right-of-way acquisition, environmental clearances, project staging, and project constructability.

The Department has executed and provided a Memorandum of Understanding (MOU) between the Department and each Utility Owner. If a utility is impacted by the project and the impact requires a relocation of the utility, refer to the executed MOU for the party responsible for the cost of the relocations.

The DB Team shall endeavor to design the Project to avoid conflicts with utilities when feasible, and minimize impacts where conflicts cannot be avoided. The DB Team shall submit to the Department a SUE Utility Impact Analysis (UIA) in the Department’s prescribed format as specified in Volume 2 Table 23-1.

When a utility owner claims prior rights in the MOU and does not include either design or construction in the Design-Build Agreement, the DB Team shall research and verify any compensable prior right claimed in the MOU that would result in reimbursement to the utility owner for any relocation design, construction or material cost. If there is a

dispute over property interests with a Utility Owner, the DB Team shall be responsible for resolving the dispute. The DB Team shall meet with the Department's District Utilities Engineer (or designee) and ITS Manager to present the property interests information gathered. This information must be sufficient for the District Utilities Engineer (or designee) to certify the extent of the Utility Owner's property interests. The Department shall have final approval authority as to the DB Team's determination of whether the Utility Owner has property interests. The DB Team will be responsible for all Design, Construction and Material costs when the design and construction are included in the Design-Build Agreement.

6.3.3 Memorandum of Understanding (MOU)

Depending on the provisions stipulated in the Memorandum of Understanding (MOU – See Attached) between the Department and each Utility Owner the DB Team shall be responsible for one of the following Design Activities:

- The DB Team shall be responsible for coordinating the design work of its subcontractors, Utility Owners and/or Utility Owners pre-approved contractors. The resolution of any conflicts between Utilities and the construction of the Project shall be the responsibility of the DB Team. No additional compensation will be allowed for any delays, inconveniences, or damage sustained by the DB Team or its subcontractors due to interference from utilities or the operation of relocating utilities.
- The DB Team shall be responsible for designing all or part of the utility removal, relocation, and adjustments required to accommodate the proposed Project. This shall include any required inspection, permitting, testing and monitoring to ensure that the work is properly performed to the certified design package. The resolution of any conflicts between Utilities and the construction of the Project shall be the responsibility of the DB Team. No additional compensation will be allowed for any delays, inconveniences, or damage sustained by the DB Team or its subcontractors due to interference from utilities or the operation of relocating utilities.

The DB Team shall provide each Utility Owner with design plans and Preliminary Utility Plans as soon as the plans have reached a level of completeness adequate to allow them to fully understand the Project impacts. The Utility Owner or Utility Owner’s pre-approved design consultant will use the DB Team’s design plan for preparing Utility Relocation Plans, cost estimates, and respective Utility Adjustment Schedules (UAS). If a party other than the Utility Owner prepares Utility Relocation Plans, there shall be a concurrence box on the plans where the Utility Owner signs and accepts the Utility Relocation Plans as shown.

The DB Team shall prepare all engineering design, plans, technical specifications, cost estimates, and utility adjustment schedules required to perform the necessary utility relocations. The DB Team shall certify to the Department that the design package listed above has been reviewed and accepted by each respective Utility Owner.

The DB Team shall be responsible for collecting the following from each Utility Owner or Utility Owner's pre-approved design consultants that is located within the Project limits: Certified Utility Relocation Plans; Utility Agreements if required, cost estimates and Letters of "no conflict" where the Utility Owner's facilities will not be impacted by the Project. The DB Team shall assist Utility Owners in the preparation and submittal to the Department a Utility Retention Request for any utility which is to remain under the roadway within the construction limits.

The DB Team shall review all Utility Relocation Plans and Utility Agreements, Utility Estimates and certificates of eligibility to ensure that relocations comply with the Departments "Utility Accommodation Policy and Standards Manual". The DB Team shall review the utility plans to identify that there are no conflicts with the proposed highway improvements, and ensure that there are no conflicts between each of the Utility Owner's relocation plans. The DB Team shall show all existing and proposed utilities on the cross sections and drainage profiles.

6.3.4 Utility Work Plans

The DB Team shall submit Utility Work Plans after the DB Team has reviewed and addressed internal comments on the Utility Adjustment Preliminary Plan. Utility Work Plans, whether furnished by the DB Team, Utility Owner, or Utility Owner pre-approved design consultants. The Utility Work Plans shall be signed and sealed by a Registered Professional Engineer (PE) in the State of Georgia.

6.3.4.1 Plans Prepared by the DB Team

Where the DB Team and the Utility Owner have agreed that the DB Team will furnish a Utility Adjustment design, the DB Team shall prepare and obtain the Utility Owner's approval of plans, specifications, and cost estimates for the Utility Adjustments (collectively, "Utility Work Plans") by having an authorized representative of the Utility Owner sign the plans as "reviewed and approved for construction." The Utility Work Plan (as approved by the Utility Owner) shall be attached to the applicable Utility Agreement (if required), for GDOT's acceptance.

Unless otherwise specified in the applicable Utility Agreement(s), all changes to Utility Work Plan(s) previously approved by the Utility Owner (excluding estimates, if the Utility Owner is not responsible for any costs) shall require written Utility Owner approval. The DB Team shall transmit any GDOT comments to the Utility Owner, and shall coordinate any modification, re-approval by the Utility Owner and re-submittal to GDOT as necessary to obtain GDOT's acceptance.

6.3.4.2 Plans Prepared by the Utility Owner

For all Utility Adjustments to be furnished by a Utility Owner, the DB Team shall coordinate with the Utility Owner as necessary to confirm compliance with the applicable requirements. Those Utility Adjustments shall be attached to the applicable Utility Agreement, which the DB Team shall include in the appropriate Utility Work Plan

for GDOT's acceptance. The DB Team shall transmit any GDOT comments to the Utility Owner, and shall coordinate any modification, review by the DB Team and re-submittal to GDOT as necessary to obtain GDOT's acceptance.

6.3.4.3 Design Documents

Each proposed Utility Adjustment shall be shown in the Design Documents, regardless of whether the Utility Work Plan is prepared by the DB Team, Utility Owner or Utility Owner's pre-approved design consultant.

Required Information

a. Preliminary Utility Plans

1) Preliminary Utility Plan sheets are typically comprised of preliminary roadway plan sheets with the inclusion of all existing utility facility locations (overhead & underground) found within a Project's limits. The "degree of effort" exerted on the part of the Department and the Utility Owner varies with the type and location of the utility. The Department has classified these "degrees of effort" into different Quality Levels of information

2) Preliminary Utility Plans shall be produced and used by the DB Team in the utility coordination/relocation design activities outlined here. The following minimum information shall be shown on the Preliminary Utility Plans:

(a) Construction centerlines with Project stations and begin/end Project limits.

(b) Curb and gutter or edge of pavement (proposed and existing)

(c) Road and street names

(d) Existing and Required Right of Way limits, property lines, environmentally sensitive area limits, and property owners

(e) All proposed and existing easements (including existing utility easements)

(f) Proposed and existing drainage structures/features (excluding drainage text)

(g) Proposed construction limits (C/F lines)

(h) Topographical planimetrics (i.e. existing buildings/structures, existing tree/vegetation limits)

(i) All proposed bridges, walls, other structures and landscape hardscapes

(j) All proposed and existing strain poles (signal, sign, lighting)

(k) Utilities Legend

(l) Miscellaneous General Notes

(m) Existing overhead and underground utilities found within the Project's limits, Including size and material if known

(n) Sanitary sewer manhole top, and invert elevations. Sanitary Sewer pipe flow directions

(o) Railroad mainline and spur tracks with their respective property/easement limits

(p) Project Survey control point locations

b. Final Utility Plans

1) The Final Utility Plans shall clearly show all existing utilities on the plans and clearly indicate all existing utilities are "To Remain".

2) In addition to the information required for the Preliminary Utility Plans, the Final Utility Plans shall include: Miscellaneous General Notes required for coordination of utility facilities with roadway construction.

Sheet Layout

a. The DB Team will ensure that any information and graphic data that is not necessary to depict the disposition of utilities found within the Project's limits is removed by turning off the appropriate CAD levels(s) on which the data is stored. This will help ensure that information pertinent to utility facilities can be clearly seen in the Utility Plan sheets. Examples of extraneous information would be items such as horizontal curve data, superelevation data, roadway dimensions, misc. text, etc. All background information such as pavement limits, existing structures, etc. shall be screened back. Also, the DB Team shall ensure all text, line work, details, and symbols are clear and legible when plans are reduced to ½ size (typically, 11"x17").

b. In order to maintain plan clarity all applicable general notes, tables, and the Utility Legend shall be placed separately from the Utility Plan sheets. A Utility Plan "Cover Sheet" shall be provided for both preliminary and final Utility Plans. A recommended example utility sheet schedule is provided below:

1) Utility Sheet 1 (Cover Sheet) – Utility General Notes, Utility Legend, Miscellaneous Details

2) Utility Sheet 2 (required as needed) – Additional Miscellaneous Details, Pole Data Table

3) Utility Plan Sheets – Utilities shown in plan view with respect to Project.

4) Utility Profile and Cross Sections Sheets - Proposed Utility facility profiles and cross sections (as required)

5) Miscellaneous Utilities Sheets – Miscellaneous proposed utility details (as required).

The above sheet schedule shall also be generally followed for all separate utility relocation plans (i.e. water & sewer plans) included in the Project plans.

Note on the Utility Plans whose responsibility it is for utility adjustment. For bridge plans required, the DB Team is to make sure the plans have made accommodations for utility crossings and attachments, if applicable. Any new utility crossings requests shall include the size, weight, and type of utility. In addition, the method of attachment to the bridge shall be fully detailed. Such requests shall be reviewed by the DB Team to ensure adequacy and constructability and final acceptance shall be obtained by the DB Team from the Department. The DB Team shall follow the approval process within this specification. The DB Team is responsible to ensure that all proposed and existing utilities are coordinated with the respective Project's Construction Staging Plans and Erosion Control Plans.

Upon completion of the Utility Relocation Plans, the DB Team will ensure that any additional environmental impacts due to utilities are addressed in the Project's Environmental Document and/or Permit.

6.3.4.4 Certain Requirements for Underground Utilities

Casing as specified in GDOT's Utility Accommodation Policy and Standards Manual shall be used for all underground Utilities crossing the Existing ROW, Proposed ROW and/or Additional Properties.

Anytime underground operations, excavations or digging of any type is contemplated in the general area of the any utility facility, "Excavating" means any operation by which the level or grade of land is changed or earth, rock, or other material below existing grade is moved and includes, without limitation, grading, trenching, digging, ditching, auguring, scraping, directional boring, and pile driving. The Georgia Utility Facility Protection Act (GUFPA) mandates that, before starting any mechanized digging or excavation work, you must contact Georgia 811 at least 48 hours, but no more than 10 working days, in advance to have utility lines marked. Damage and Emergency locate request may be called in 24 hours a day, seven days a week. The DB Team shall take reasonable action to determine the location of any underground utility facilities in and near the area for which signs are to be placed. In addition to establishing the approximate location of all utility facilities, the DB Team shall be required to fully expose the facility to verify its horizontal and vertical location, if underground operations are contemplated within the Tolerance Zone, which is defined to mean the approximate location of underground utility facilities defined as a strip of land at least 4 feet wide, but not wider than the width of the underground facility plus 2.0 feet on either side of the outside edge of such facility based upon the markings made by the locators. Excavation within the tolerance zone requires extra care and precaution. The DB Team

shall avoid interference with underground utility facilities within the tolerance zone by utilizing such precautions that include, but are not limited to, hand excavation, vacuum excavation methods, and visually inspecting the excavation while in progress until clear of the existing marked facility. The DB Team shall provide, during and following excavation for placement of any signs, such support for existing underground utility facilities in and near the excavation as may be reasonably necessary for the protection of such facilities unless otherwise agreed to by GDOT and the Utility owner. The DB Team shall backfill all excavations in such manner and with such materials as may be reasonably necessary for the protection of existing underground utility facilities in and near the area of excavation or sign placement.

6.3.4.5 Utility Work Plan

Each Utility Adjustment (as well as each Utility remaining in place in the Facility ROW and not requiring any Protection in Place or other Utility Adjustment) shall be addressed in a Utility Work Plan prepared by the DB Team and submitted to GDOT for its review and acceptance. The Utility Work Plan is the combination of the Utility Plan and the Utility Adjustment Schedule. The DB Team shall provide Utility Work Plans for each individual Utility Owner and the Utility Work Plan shall be provided in accordance with the Utility Accommodations Policy and Standards Manual. The DB Team shall coordinate with the Utility Owner or Utility Owner's pre-approved design consultant to prepare all components of each Utility Work Plan. Completion of the review and comment process for the applicable Utility Work Plan, as well as issuance of any required GDOT acceptances, shall be required before the start of construction for the affected Utility Adjustment Work.

Provisions governing the procedure for and timing of Utility Work Plan submittals are in Section 6.5

All Utility Adjustments covered by the same initial Utility Agreement shall be addressed in a single full Utility Work Plan.

Utility Work Plan Retention Requests: The DB Team shall assist utility owners in the preparation of Utility Work Plan Retention Request for each Utility proposed to remain at its original location within the Existing ROW, Proposed ROW and limits of Additional Properties that is not required to be addressed in a Utility Agreement or for a group of such Utilities. Each Utility Work Plan Retention Request shall contain a transmittal memo recommending that the subject Utility(ies) remain in place, a completed Utility Work Plan Checklist, a certification from the Utility Owner approving leaving the Utility(ies) in place, as well as a Georgia Utility Permit and Affidavit(s) of Property Interest, if applicable.

Utility Adjustment Schedule (UAS)

The purpose of the UAS is to provide the DB Team with the pertinent information, including any utility staging required, dependent activities, or joint-use coordination that is required for the creation of a progress schedule chart that is feasible. Include the

estimated duration for each of the applicable following tasks: Preliminary Engineering, Right-of-Way Acquisition, Construction Engineering, Material Procurement, Clearing and Trimming, Construction, Splicing or Tie-in work, Service Considerations and Temporary Works. A suitable UAS form is available from the Department for the WUCS to circulate to utility companies for any proposed Project construction staging. Ensure the WUCS submits the Progress Schedule Chart in accordance with the Contract and the proposed UAS from all utility companies to the Engineer for review and approval.

Scheduling Utility Adjustment Work

The DB Team is responsible for the scheduling of all utility relocations and adjustments. A written scheduled should be provided by the utility owner or utility owner pre-approved contractor.

Revised Work Plan Acceptance - If previously unforeseen utility removal, relocation, or adjustment work is found necessary by the DB Team, the Utility or the DB Team after the start of construction of a project, the Utility shall provide a revised Work Plan within 30 calendar days after becoming aware of such work or upon receipt of the DB Team's written notification advising of such work. The incorporation of this revised Work Plan into the overall project schedule is not intended to correct errors and omissions with the original or current accepted Work Plans submitted to the Department. If such errors or omissions occur, it will be the Utility's responsibility to adhere to the original or current Work Plan submitted and approved. However, when it is deemed appropriate for a revised Work Plan to be submitted, the following procedure shall be followed for its acceptance: It is the responsibility of the DB Team to review all revised Work Plans submitted by the Utility found within a project's limits. After review and acceptance the revised Work Plan should be submitted to the District Utility Engineer for review and acceptance. Please note that the District Utilities Engineer will typically consult with the District Construction Office and GDOT Project Manager to determine the reasonability of such revised Work Plans. If, upon review, the District Utilities Engineer determines a revised Work Plan to be unreasonable based upon the required scope of utility adjustment and/or relocation required to accommodate a project, the District Utilities Engineer will initiate the escalation process to resolve such disputes involving the revised Work Plan whenever they may occur.

Post-Let Utility Certification

Upon receipt of the accepted utility relocation plans and the Preliminary Utility Status Report, the DB Team will review and forward that information to the District Utility Engineer for review. The District Utility Engineer will review the information and forward to the State Pre-Construction Utility Engineer for final acceptance. The State Pre-Construction Utility Engineer will perform the post-let utility certification and issue notice to proceed (NTP 3) released for construction.

6.4 Construction

6.4.1 Reserved

6.4.2 General Construction Criteria

At the time the DB Team notifies the Department that the DB Team deems the Project to have reached Final Completion, the DB Team shall certify to the Department that all Utilities have been identified and that those Utility Owners with property interests or other claims related to relocation or coordination with the Project have been relocated or their claims otherwise satisfied or shall be satisfied by the DB Team.

In addition to the above, the DB Team shall comply with all provisions set forth under subsection 107.21 of the Georgia Department of Transportation's Specifications, Construction of Transportation Systems, current edition.

The DB Team shall be responsible for determining if the Department has agreed to a Project Framework Agreement (PFA) with Local Government or, additional Specific Activity Agreements (SAA) within the Project's limits (see the Department's Policies & Procedures(formerly known as TOPPS Policy #7120-3) for additional information). If the Department has approved a PFA or SAA; it is the DB Team's responsibility to assemble the necessary information including any Utility Agreements in a final and complete form and in such manner that the Department may accept the submittals with minimal review. Failure to submit such required Utility Agreements prior to the beginning of construction shall fully transfer the obligations, as stated in the subject PFA or SAA package, to the DB Team. Deductions to reimburse the Department for such obligations may be made from any current partial payment of the Lump Sum price.

All Utility Adjustment construction performed by the DB Team shall conform to the requirements listed below. If the Utility Owner chooses to perform their own relocations and the Utility Owner holds no property interest, the Utility Owner shall confirm in writing to the DB Team that the Utility Owner will relocate its own facilities at no cost to the DB Team. All construction engineering and contract supervision shall be the responsibility of the DB Team to ensure that all utility relocation work included in the contract is accomplished in accordance with the contract plans and specifications. The DB Team will consult with the Utility Owner before authorizing any changes which affect the Utility Owners facilities. For work included in the DB Teams contract, the Utility Owner or Utility Owner's consultant shall have the right to visit and inspect the work at any time and advise the DB Team and GDOT of any observed discrepancies or potential issues. The DB Team will notify the Utility Owner when all utility relocation work is completed and ready for final inspection. Upon final acceptance of the utility relocation included in the contract and upon certification by the Utility Owner that the work has been completed in accordance with the plans and specifications, the Utility Owner will accept the adjusted, relocated, and additional facilities. In addition, the DB Team is responsible for verifying that all Utility Adjustment construction performed by each Utility Owner conforms to the requirements described below. In case of nonconformance, the DB Team shall cause the Utility Owner (and/or its Contractors, as applicable) to complete all necessary corrective work or to otherwise take such steps as are necessary to conform to these requirements:

- All criteria identified in Section 6.3.2.
- The Utility Work Plan(s) included in the Utility Agreements approved by GDOT (other than Utility Adjustment Field Modifications complying with Section 6.4.7.

- All Facility safety and environmental requirements
- Overall Facility schedule or proposed Facility ROW schedule described in Section 7.
- Ensure that the placed, abandoned, excavated or relocated within the project limits are all locatable. Locatable shall mean that the line can be field located using SUE QL-B methodology.

Depending on the provisions stipulated in the Memorandum of Understanding (MOU – see attached) between the Department and each Utility Owner the DB Team shall be responsible for one of the following construction activities:

- The DB Team shall be responsible for coordinating the construction work of its subcontractors, Utility Owners and/or Utility Owners pre-approved contractors. The resolution of any conflicts between Utilities and the construction of the Project shall be the responsibility of the DB Team. No additional compensation will be allowed for any delays, inconveniences, or damage sustained by the DB Team or its subcontractors due to interference from utilities or the operation of relocating utilities.
- The DB Team shall be responsible for performing all or part of the utility removal, relocation, and adjustments required to accommodate the proposed Project. This shall include any required inspection, permitting, testing and monitoring to ensure that the work is properly performed to the certified design package. The resolution of any conflicts between Utilities and the construction of the Project shall be the responsibility of the DB Team. No additional compensation will be allowed for any delays, inconveniences, or damage sustained by the DB Team or its subcontractors due to interference from utilities or the operation of relocating utilities.

The DB Team shall be responsible for performing all utility removal, relocation, and adjustments required to accommodate the proposed Project in accordance with the MOU and any required utility agreements. This shall include any required inspection, permitting, testing and monitoring to ensure that the work is properly performed to the certified design package. The resolution of any conflicts between Utilities and the construction of the Project shall be the responsibility of the DB Team. No additional compensation will be allowed for any delays, inconveniences, or damage sustained by the DB Team or its subcontractor due to interference from utilities or the operation of relocating utilities.

6.4.3 Inspection of Utility Owner Construction

The DB Team shall set forth procedures for inspection of all Utility Adjustment Work performed by Utility Owners (and/or their Contractors) to verify compliance with the applicable requirements described in Section 6.4.2 (General Construction Criteria).

6.4.4 Scheduling Utility Adjustment Work

The Utility Adjustment Work (other than construction) may begin at any time following issuance of NTP 1. Refer to Section 7.6.2 of the Agreement for the conditions to commencement of Utility Adjustment Construction Work by the DB Team. The DB Team shall not arrange for any Utility Owner to begin any demolition, removal, or other construction Work for any Utility Adjustment until all of the following conditions are satisfied:

- The Utility Adjustment is covered by an executed Utility Agreement (and any conditions to commencement of such activities that are included in the Utility Agreement have been satisfied)
- Availability and access to affected Replacement Utility Property Interests have been obtained by the Utility Owner (and provided to the DB Team, if applicable)
- Proposed ROW and/or Additional Properties have been obtained in accordance with the applicable requirements of the DB Documents
- If applicable, the Alternate Procedure List has been approved by FHWA, and either (a) the affected Utility is on the approved Alternate Procedure List, as supplemented, or (b) the Utility Owner is on the approved Alternate Procedure List, as supplemented
- The review and comment process has been completed and required approvals have been obtained for the Utility Work Plan covering the Utility Adjustment.
- All Governmental Approvals necessary for the Utility Adjustment construction have been obtained, and any pre-construction requirements contained in those Governmental Approvals have been satisfied
- All other conditions to that Work stated in the DB Documents have been satisfied

6.4.5 Standard of Care Regarding Utilities

The DB Team shall carefully and skillfully carry out all Work impacting Utilities and shall mark, support, secure, exercise care, and otherwise act to avoid damage to Utilities in accordance with O.C.G.A. 25-9 (The Georgia Utility Protection Act). At the completion of the Work, the condition of all Utilities shall be at least as safe and permanent as before.

6.4.6 Emergency Procedures

Emergency Response Plan: The WUCS shall prepare and submit to the Department an Emergency Response Plan no later than 30 days prior to beginning construction. The WUCS shall clearly mark and highlight the gas, water and other pressurized pipeline shut-off valves and other utility services including overhead switch locations on the utility plans; and prepare a chart to indicate the location of each site (Street address or intersections), the utility company or operator of the facility with emergency contact information and the working condition of the device to facilitate prompt shut-off. The WUCS shall post the Emergency Response Plan in an area readily accessible to the Department. In the event of interruption to gas, water or other utility services as a

result of accidental breakage or as a result of being exposed or unsupported, the WUCS shall promptly notify the appropriate emergency officials, the Georgia Utilities Protection Center and the appropriate utility facility company or operator, if known. Until such time as the damage has been repaired, no person shall engage in excavating or blasting activities that may cause further damage to the utility facility.

6.4.7 Switch Over to New Facilities

After a newly Adjusted Utility has been accepted by the Utility Owner and is otherwise ready to be placed in service, the DB Team shall coordinate with the Utility Owner regarding the procedure and timing for placing the newly Adjusted Utility into service and terminating service at the Utility being replaced.

6.4.8 Traffic Control

The DB Team shall be responsible for, and the Construction Traffic Control Plan shall cover, all traffic control made necessary for Utility Adjustment Work, whether performed by the DB Team or by the Utility Owner. Traffic control for Adjustments shall be coordinated with GDOT. Traffic control shall comply with the guidelines of the Manual of Traffic Control Devices (MUTCD), current edition, and of Section 18.

6.5 Deliverables

The DB Team shall time all Submittals described in this Section 6 to meet the Project Baseline Schedule, taking into account GDOT's applicable review and response times designated in this Section 6, or if not stated therein, then as stated in Article 6.3 of the Design-Build Agreement (Volume 1).

The DB Team will provide to GDOT concurrently with accepted construction as-built plans, one full sized, three half sized, one PDF and one MicroStation copy of the utility as-built plans for review. GDOT will have 30 days to review and return accepted or with comments. DB Team will address any comments and return to GDOT for final review and acceptance. Upon GDOT review and acceptance, the DB Team will provide a copy of the accepted final utility as-built plans to all utility owners who's utility relocation work was included in the contract.

6.5.1 Utility Work Plan Submittals

DB Team shall coordinate all Submittals required pursuant to this Section 6.5, so as not to overburden GDOT's staff and consultants.

(i) DB Team shall transmit any GDOT comments to the Utility Owner, and shall coordinate any modification, review and approval by the Utility Owner and re-submittal to GDOT, as necessary to resolve all GDOT comments and/or obtain GDOT's acceptance, as applicable. Upon (i) GDOT's acceptance of any Utility Work Plan components for which GDOT's acceptance is required, and (ii) completion of the review and comment process for all other Utility Work Plan components, GDOT will sign three

originals of any approved Georgia Utility Permit and of any other components of the Utility Work Plan for which this Section 6 requires GDOT's signature.

6.5.2 Preliminary Utility Status Report

The DB Team shall prepare and submit to the Department a Preliminary Utility Status Report Concurrently with Accepted Relocated Utility Plans in accordance with Section 23. This report shall include a listing of all Utility Owners located within the Project limits and a recommendation as to the extent of each Utility Owner's property interests. This report shall include copies of easements, plans, or other supporting documentation that substantiates any property interests of the Utility Owners. The report shall a listing of each utility with contact information, agreements, current UIA and a preliminary assessment of the impact to each Utility Owner.

6.5.3 Subsurface Utility Engineering (SUE) Requirements

The DB Team shall compile, and submit to the Department all SUE deliverables, Utility Relocation Plans, SUE Utility Impact Analysis, Utility Adjustment Schedules, Utility Agreements, Utility Estimates (if estimates are provided by the utility owners), and Letters of "no conflict," as set forth above for the Project. The DB Team is expected to assemble the information included in the Utility Agreements and Utility Relocation Plans in a final and complete form and in such a manner that the Department may accept the submittals with minimal review. The Utility Owners shall not begin their Utility Relocation work until authorized in writing by the Department.

Each Utility Agreement and Utility Relocation Plan submitted shall be accompanied by a certification from the DB Team stating that the proposed relocation will not conflict with the proposed highway improvement and will not conflict with another Utility Owner's relocation plan.

6.5.4 Utility As-Built Standard

6.5.4.1 General As-Built Utility Requirements

The DB Team shall be responsible for managing, ensuring the accuracy of, and delivering all utility As-Builts which must be provided after utility relocations are completed and prior to project closeout. The DB Team shall submit detailed As-Built utility information which will include all resulting abandoned or relocated utilities present within the project limits. An “As-Built Drawing” will be submitted for each utility on the project, whether the utility work is included in the contract price, or the utility work is performed by the Utility Owner or the Utility’s contractor.

The DB Team shall ensure the following:

All underground utilities that were relocated within the project limits will be surveyed at the time of installation to determine the exact location and position of the utility line, including, but not limited to:

a. The outside diameter of pipe or width of duct banks and configuration of non-encased multi-conduit systems
b. The utility's structural material composition and condition
c. Identification of benchmarks used to determine elevations
d. Elevations with an accuracy of +/- 0.05-ft and certified accurate to the benchmark(s) used to determine elevations
e. Horizontal data accurate to within +/- 0.2 ft or applicable survey standards, whichever is more precise
f. Recording and labeling of the average depth below the surface of each run, all change of direction points, and all surface or underground components such as valves, manholes, drop inlets, clean outs, meters, etc.
    i. For wet facilities – typically at 100' intervals
    ii. For dry facilities – typically at 25'-50' intervals, depending on the vertical alignment

All resulting abandoned or excavated underground utilities within the project limits shall be clearly delineated and labeled as "abandoned" or "removed"

All relocated aerial facilities shall be recorded to include, but not be limited to, the pole

g. Owner
h. Age
i. Size
j. Height
k. Number
l. Material type
m. General condition of the utility
n. Horizontal location surveyed to the same accuracies and precision as is required for the topographic data
o. Aerial Utility Owners attached to the pole
p. Horizontal connectivity of the utilities between the poles, including major service drops (substations or industrial facilities)

6.5.4.2 As-Built Utility CADD Files and Plans Preparation

The DB Team shall submit As-Built information in GDOT's current CADD format (Microstation and InRoads) and in pdf format in accordance with GDOT's current Electronic Data Guidelines (EDG) and Plan Presentation Guide (PPG).

The DB Team shall ensure the As-Built utility information is submitted as follows:

CADD files

2. All points/data shall be placed in one (1) CADD file per Utility Owner
3. DGN files shall be named 1234567UTLAB_XYZ.dgn (where “1234567” represents the PI# and “XYZ” the Owner’s UPC code)
4. One (1) empty, overall 1234567UTLEAB.dgn shall be created with all individual 1234567UTLAB_XYZ.dgn files attached as reference files
5. All UTLAB files shall follow the conventions set forth in the EDG for the UTLE file
6. Sheet files, using GDOT's title block, shall be created for each Utility Owner in accordance with Section 44 of the GDOT's PPG; levels shall be correctly turned on/off/grayed back to enable future printing if needed
7. The project’s scale shall be maintained
8. Relocated poles shall be numbered and matched to a pole data table
9. Pole data tables and point data tables shall be included
10. All street names shall be labeled
11. All easements and right-of-ways shall be labeled
12. The location and elevation of the referenced benchmark shall be identified and labeled; if the referenced benchmark is not within the project limits, then a complete description of its location shall be provided to assist in future locating
13. Any changes in details of design and/or additional supporting information, such as approved placement details, pipe sizes, material changes, geo-coded photos, etc., shall be labeled

PDF files

1. PDFs of the CADD sheet files shall be created for each Utility Owner in accordance with Section 44 of the GDOT's PPG; levels shall be correctly turned on/off/grayed back to enable future printing
2. Include the name, address, and telephone number of the firm preparing the drawing in the title block
3. Include the date the As-Built data is collected in the revision block of the title block
4. Include the Surveyor’s/Engineer’s stamp and statement certifying that As-Built plans reflect the true conditions in the field

a. An electronic stamp may be used

b. Certification applies to new As-Built information (not to the existing utility information provided by GDOT)

5. Provide the Contractors' statement (with an original signature and Project Number on the cover sheet and transmittal letter) verifying that all construction specifications and product qualities have been met
6. Label "As-Built Drawing" on each sheet

As-Built Utility Plans Review and Submittal Process

1. The DB Team shall submit completed As-Built CADD files and pdfs of the As-Built utility plan sheets to the DB Team's Design Engineer for review and comment(s)
2. Each respective Utility Owner, whose work was included in the contract, shall receive a pdf copy of their As-Builts for review and acceptance at the interval(s) specified in the project's contract; all comments shall be provided to the DB Team
3. The DB Team shall revise and make changes or adjustments to the As-Built utility related data, as necessary
4. As-Builts shall not be considered complete until the DB Team has responded to all comments from these reviews to the satisfaction of the DB Team's Design Engineer and the Utility Owners
5. The DB Team shall submit final As-Built utility plans to GDOT as follows:

    a. One (1) overall, final CADD file in the Department's current CADD Software with each Utility Owner's file appropriately attached as a reference file per GDOT's PPG and EDG

    b. One (1) pdf set of Section 44 plans for each Utility Owner's facilities

6. Quality Assurance (QA) shall be performed by GDOT on all deliverables to determine compliance with GDOT's EDG ad PPG before final acceptance by GDOT

7 RIGHT OF WAY (ROW) – ADDITIONAL PROPERTIES

7.1 General Requirements

DB Team's obligations with respect to the acquisition of Additional Properties are set forth in Article 2 of the Design-Build Agreement (Volume 1), the requirements of the Technical Provisions, and Volume 3 Manuals.

Additional Properties that require acquisition in addition to the Existing ROW owned by GDOT and Required ROW as shown in the approved Environmental Documents must be approved by GDOT. All cost to acquire Additional Properties shall be paid for by the DB Team and fully reimbursable to GDOT for actual costs to acquire. This Section 7 sets forth the ROW acquisition activities for only Additional Properties that will be provided by the DB Team and designates the ROW acquisition activities GDOT will conduct. The DB Team shall provide all engineering and ROW documents necessary to acquire title for Additional Properties, in form and substance acceptable to GDOT, in the name of the Georgia Department of Transportation; relocation of displacees; and clearance/demolition of the improvements from the Additional Properties, as more fully described in the following sub-sections.

7.2 Administrative Requirements

7.2.1 Revised ROW Acquisition Plan - Additional Property Submittals

DB Team shall prepare a plat and legal description for Additional Properties needed in accordance with the requirements of this Section 7. The DB Team shall revise the Existing and Proposed ROW Plan (Exhibit 4 of the Agreement) and shall submit within thirty (30) days from the Issuance of NTP 1. No acquisition activities by GDOT can begin until the DB Team revised Existing and Proposed ROW Plan (Exhibit 4 of the Agreement) is accepted by GDOT. The review period for any proposed revised Existing and Proposed ROW plan is thirty (30) Days. The review period for any proposed parcel plat, appraisal, and legal description for any Additional Properties shall be fourteen (14) Days. Multiple parcel packages submittal (parcel plat, appraisal, legal description, and any other requirements in the DB Agreement) will be accepted as part of one review period of fourteen (14) Days as long as the submittal includes no more than ten (10) parcels for GDOT review. The next submittal review will not begin until any previous submittal package has been completed and returned to the DB Team.

The revised Existing and Proposed ROW Plan for Additional Properties shall be coordinated with the development of the Construction Phasing Plan (see Section 23). The DB Team's Preliminary Baseline Schedule and the Project Baseline Schedule must account for all newly proposed parcel acquisition and provide a Schedule Activity for each parcel. The DB Team shall provide time in the schedule for a maximum of fifteen (15) months from the time the parcel package or any submittal is accepted by GDOT.

DB Team shall provide information of all proposed and final acquisition requirements, including but not limited to, temporary easements, permanent easements, full takes, or leased property for construction means and methods by the DB Team.

7.2.2 DB Team's ROW Properties Scope of Services

DB Team shall reimburse GDOT for all administrative activities and preparation of all documentation sufficient to acquire Additional Properties.

Upon DB Team request to GDOT to acquire any parcel, GDOT will request that the Office of Georgia Attorney General conduct the title work, closings, condemnations, and any necessary legal activities. The DB Team shall reimburse GDOT within thirty (30) days of receipt of the invoice from GDOT for the cost GDOT will pay the Office of Georgia Attorney General for its services.

DB Team shall not begin construction on any parcel of real estate unless property rights for the parcel have been obtained and recorded in favor of GDOT and possession has occurred. ROW Properties possession may be by use of Right of Entry (ROE) as may be granted by certain Governmental Entities, and/or certain Public Utilities provider owned parcels, and as accepted only by GDOT on a case by case basis.

7.2.3 Requirements of DB Team

DB Team's services to be provided with respect to the acquisition of the ROW Properties shall include, but are not limited to the following:

- Appraisals
- Environmental due diligence
- Letter from DB Team's design engineer certifying that the required ROW Properties acquisition is necessary and that any proposed alternatives are not feasible (*unless otherwise authorized by GDOT*)

7.2.4 DB Team Conflict of Interest

If at any time, DB Team or to the best of DB Team's knowledge, any DB Team-Related Entity directly or indirectly (i) acquires or has previously acquired any interest in real property likely to be parcels of the Additional Properties or the remainders of any such parcels; (ii) loans or has previously loaned money to any interest holder in any real property likely to be a parcel and accepts as security for such loan the parcel, or the remainder of any such parcel that is not a whole acquisition, or (iii) purchases or has previously purchased from an existing mortgagee the mortgage instrument that secures an existing loan against real property likely to be a parcel, or the remainder of any such parcel, DB Team shall promptly disclose the same to GDOT. In the case of acquisitions, loans or mortgage purchases that occurred prior to the execution of the Agreement, such disclosure shall be made within fourteen (14) Days after execution of the Agreement.

In the event that DB Team, or any subsidiary or parent company of DB Team, acquires a real property interest, whether title or mortgage, in parcels of the real property interest acquired, or a release of mortgage as the case may be, shall be conveyed to the State of Georgia without the necessity of eminent domain.

DB Team shall not acquire or permit the acquisition by the DB Team or any DB Team-Related Entity of any real property interest in a parcel, whether in fee title or mortgage, for the purpose of avoiding compliance with the Laws, practices, guidelines, procedures and methods described in Section 7.2.1 and/or to gain an advantage over any competing interest of the DB Team.

7.2.5 Meetings

DB Team shall attend meetings as requested by GDOT. Meeting may include, but are not limited to property owner meetings and property acquisition status meetings. At such meetings DB Team shall provide exhibits, take minutes, and distribute minutes, as requested by GDOT, within five (5) calendar Days of the meeting. Minutes will not be finalized until an adequate comment period has been allowed.

7.2.6 Documentation and Reporting

All documentation relating to the activities in Section 7.2.5 shall be transmitted to GDOT within five (5) Days of taking place. Responsibilities of DB Team:

As set forth in, Article 2 of the Design-Build Agreement (Volume 1) and as more fully described in this Section 7, DB Team shall be responsible for the reimbursement to GDOT for costs of all services and preparation of all documentation for all Additional Properties.

DB Team shall also be responsible for the costs of acquisition and documentation for the acquisition of any temporary right or interest in Project Specific Locations not necessary for the Project but that DB Team deems advisable for contractor preferred areas such as Project office requirements lay-down areas, material storage areas, borrow sites, or any other convenience of DB Team. The DB Team entering into negotiations with a property owner to use their property within Project Specific Locations or outside of the acquisition limits for mobile work trailers, storage, equipment, etc. will be strictly between the DB Team and the property owner and is to in no way to affect the negotiations of any parcel acquisition required for the Project. GDOT shall not be obligated to exercise its power of eminent domain in connection with DB Team's acquisition of any such temporary right or interest, and GDOT shall have no obligations or responsibilities with respect to the acquisition, maintenance or disposition of such temporary rights or interests.

7.2.7 Responsibilities of GDOT

GDOT shall be responsible for the activities set forth in the Section 7, in connection with acquisition of Additional Properties:

7.2.8 Responsibilities of the Office of Georgia Attorney General

The parties hereto acknowledge the statutory requirements that the Office of Georgia Attorney General has exclusive authority to represent and defend GDOT. In its role as attorney for GDOT, the Office of Georgia Attorney General has the responsibility to:

- Represent GDOT in all condemnation and eviction proceedings.
- Coordination with GDOT on all legal matters concerning acquisition processes, including all negotiated legal settlements.
- Analyze recommended parcel values and/or appraisal issues.
- Provide additional legal advice and opinions as needed by GDOT.
- Jury trials including determination of expert witnesses and all appeals.
- Preparation, obtaining, and filing of all necessary legal documentation for eviction of property owners or tenants.
- Prepare preliminary and final title opinions.
- Conduct all closing activities.

7.3 Reserved

7.4 Fencing

7.4.1 Reserved

7.4.2 Property Fencing

In connection with fencing, DB Team shall comply with *GDOT Policy and the 2009 International Building Code – 2009 Edition – International Code Council*, as well as, the specifications found in the current version of GDOT's *Standard Specifications for Construction of Highways, Streets and Bridges*, and any Supplemental Specifications. DB Team shall also comply with section 3.7 of GDOT's Design Policy Manual on fencing. Fencing standards for DB Team provided fencing shall conform to the overall aesthetics requirements found elsewhere in these DB Documents and referenced standards. All fencing installed by DB Team shall be preapproved by GDOT prior to installation.

7.5 Access to the Work

Following NTP 1, the DB Team shall be afforded access to the Property, provided that for any Proposed Right of Way, DB Team shall not have access to use of certain parcels, such parcels identified in Volume 2.

8 GEOTECHNICAL

8.1 General Requirements

DB Team shall perform all geotechnical investigations, testing, research, and analysis necessary to effectively determine and understand the existing surface and subsurface geotechnical conditions of the Existing ROW, Required ROW or Additional Properties to be used by the DB Team to carry out the Work. DB Team shall ensure the geotechnical investigations and analyses are both thorough and complete, so as to provide accurate information for the design of roadways, pavements, foundations, structures, and other facilities that result in a Project that is safe, and meets operational standards. The DB Team shall design the Project in general conformance with GDOT policies, guidelines, and Volume 3 Manuals.

All geotechnical reports, provisions, and recommendations as developed by the DB Team and accepted and/or concurred by GDOT will be considered part of the Projects design and shall be endorsed by the EOR.

8.2 Design Requirements

8.2.1 Subsurface Geotechnical Investigation by DB Team

DB Team shall determine the specific locations, frequency, and scope of all subsurface geotechnical investigations, testing, research, and any additional analysis the DB Team considers necessary to provide a safe and reliable roadway, pavement, foundation, structure, and other facilities for the Project.

DB Team shall prepare and amend, as needed, Geotechnical Engineering Reports documenting the assumptions, conditions, and results of the geotechnical investigation and analysis, including the following:

- The geology of the Project area, including soil and/or rock types, and drainage characteristics.
- Field investigations and laboratory test results used to characterize conditions, including moisture content, plasticity index, gradations for each major soil strata change, levels of shrink/swell potential soil compressibility, and short-term and long-term settlement/consolidation, strength tests and engineering properties.
- A discussion of conditions and results with reference to specific locations on the Project including dewatering plan and its impact on near-by structures.
- Design and construction parameters resulting from the geotechnical investigation and analysis, including parameters for the design of pavements, pipes, foundations, structures, slopes, and embankments.
- Plan view locations of field sampling, boring logs and other field data, laboratory test results, calculations, and analyses that support design decisions taking into consideration down-drag on piles and soil squeeze in high embankments.

- Include the slope stability analysis for embankment and excavation slopes including both short-term (undrained) and long-term (drained) conditions, and discussion of design measures undertaken to ensure stability and safety of all slopes. The analysis shall consider the potential for long-term surficial slide failures common to high plasticity clays in Georgia, and specific recommendations shall be provided to minimize their occurrence. Internal and external stability analysis shall be considered for walls supporting fill/cut within the Project.

Each Geotechnical Engineering Report along with back-up of calculations and input and output of GDOT recognized computer software, upon completion, shall be submitted to GDOT for review and comment as a Submittal.

If environmentally-sensitive conditions such as undocumented contaminated soil or archaeological sites are encountered during the subsurface exploration activities, DB Team shall notify GDOT immediately and for hazardous materials follow the requirements GDOT Standard Specification 107.22.

8.2.1.1 Bridge Foundation Investigation (BFI)

DB Team shall perform a BFI for all Projects that include bridge substructure Work in conformance with this section, GDOT Geotechnical manual, AASHTO guidelines, and Volume 3 Manuals. The BFI report and all recommendations shall be endorsed by the EOR.

Pile foundation

- Design and construct the pilings in accordance with all related special provisions per the approved Bridge Foundation Investigation recommendations.
- All piles shall be embedded a minimum of 10 feet into natural ground and 10 feet below 500 year scour line with additional length determined by the Geotechnical EOR.
- Piles located in 15 to 20-blow count soil shall be embedded a minimum of 15 feet in lieu of the 10 foot minimum above.
- When piles must penetrate into rock to provide the minimum embedment, use pilot holes drilled a minimum of 5 feet into the rock.

<u>Drilled Caisson</u>

- Design and construct the drilled caissons in accordance with Special Provision 524 per the approved Bridge Foundation Investigation recommendations.
- When sound rock is encountered drilled caissons shall be embedded a minimum of 10 feet from the top of rock or per the approved Bridge Foundation Investigation recommendations.

<u>Spread Footings</u>

- Top of footing shall be a minimum of 2 feet below the top of final grade.

- Spread footings shall not be used within Environmentally Sensitive Areas. Spread footings in stream buffers are allowed if no other less impactful options are available.
- Spread Footings should bear below the scour line.

8.2.2 Dynamic Pile Testing

The DB Team shall perform dynamic pile testing using the Pile Driving Analyzer (PDA) to monitor the driving of piles with accelerometer and strain gauges attached to the piles. The DB Team shall perform a minimum of 2 PDAs (one for the abutment and one for the intermediate bents), and additional PDAs will be required for a change in bent type, change in abutment, change in geotechnical material, or as determined by the EOR. Perform the dynamic pile testing in accordance with ASTM D4945-08 and Special Provision 523 per the approved Bridge Foundation Investigation recommendations..

Upon completion of a PDA test, provide a complete report consisting of but not limited to PDA field monitoring data, results of CAPWAP computer analyses, and the driving criteria recommendation from the geotechnical engineer who developed the BFI. The recommendation shall be endorsed by the EOR. Submit the report electronically in PDF format and the electronic data files of the PDA analysis and CAPWAP to the GDOT and allow seven (7) calendar days for review and acceptance before proceeding with driving production piles.

8.2.3 Pavement Design

DB Team shall construct and maintain roadway pavements in conformance to *GDOT's Pavement Design Manual and* GDOT policies and procedures. DB Team shall follow the required minimum pavement design provided in Volume 2, Section 11.

If Pavement Design has not been previously approved by GDOT, then the DB Team shall prepare a pavement design report that confirms or revises the required minimum pavement design provided in Volume 2, Section 11. The pavement design report shall document the assumptions, considerations, and decisions contributing to the Project's pavement design and meet all requirements of the *GDOT's Pavement Design Manual*.:

For roadways adjacent to and crossing the Project that are disturbed by the construction activities of the Project, DB Team shall, at a minimum, match the in-place surface type and structure of the existing roadways. In addition, all new shoulders shall be constructed as full depth shoulders. DB Team shall design all tie-in Work to avoid differential settlement between the existing and new surfaces.

DB Team shall coordinate the design and construction of all cross roads with the Governmental Entity having jurisdiction whether a Municipality, County, or GDOT.

8.3 Construction

Materials used to construct the Project shall meet the minimum requirement as specified in GDOT specifications, policies and procedures, guidelines, and Volume 3 Manuals. All materials used to construct the Project shall conform to the requirements of the GDOT Qualified Products List (QPL) or equivalent as approved by GDOT. Testing of materials shall be performed by personnel possessing the requisite GDOT materials certifications.

The DB Team shall be responsible for obtaining and complying with all Governmental Approvals for construction of the Project.

The DB Team shall submit to GDOT for review and acceptance any blasting plan(s). Blasting shall be performed in accordance with State Law, and in accordance with GDOT's specifications, policies and procedures.

8.4 Deliverables

Deliverables shall include Geotechnical Engineering Reports along with all backup engineering calculations as described in Section 8.2.1, and pavement design reports as described in Section 8.2.2. All deliverables shall conform to the standards required in the Quality Management Plan including timely submittal of all documents.

All deliverables shall be presented to GDOT in both hard-copy, and electronic format compatible with GDOT software. All reports shall be signed and sealed by the EOR. Each report shall be accompanied by documentation that the report has completed all aspects of the Quality Management Plan including all reviews and acceptances.

9 SURVEYING AND MAPPING

9.1 General Requirements

The DB Team shall provide accurate and consistent land surveying and mapping necessary to support ROW acquisition, design, and construction of the Project. The DB Team is responsible for all surveying responsibilities in accordance with the GDOT *Automated Survey Manual*.

The DB Team shall review existing survey data and determine the requirements for updating or extending the existing survey and mapping data. The DB Team is responsible for the final precision, accuracy, and comprehensiveness of all survey and mapping.

The DB Team shall provide surveying and mapping activities in conformance with GDOT policies, guidelines, and Volume 3 Manuals.

9.2 Administrative Requirements

9.2.1 Property Owner Notification

The DB Team shall prepare for GDOT review and acceptance a property owner notification letter in accordance with the *GDOT Automated Survey Manual* prior to entering any private property outside the Existing ROW.

9.3 Design Requirements

9.3.1 Units

All survey Work shall be performed in U.S survey feet. Work shall conform to state plane coordinates.

The combined sea level and scale factor for the Project shall conform to the *GDOT Automated Survey Manual*.

9.3.2 Survey Control Requirements

The DB Team shall ensure that all surveying conforms to all applicable surveying laws and the *Georgia Professional Land Surveying Practices Act* and shall follow the *General Rules of Procedures and Practices* of the Georgia Board of Professional Engineers and Land Surveying. DB Team shall ensure that any person in charge of the survey is proficient in the technical aspects of surveying, and is a Registered Professional Land Surveyor licensed in the State of Georgia.

The DB Team shall establish all horizontal and vertical primary Project control from approved control provided by GDOT. If the DB Team chooses to use GPS methods,

the DB Team shall meet the guidelines as defined in the *GDOT Automated Survey Manual*.

The DB Team shall establish and maintain additional survey control as needed and final ROW monumentation throughout the duration of the Project.

The DB Team shall tie any additional horizontal and vertical control for the Project to the established primary Project control network.

All survey control points shall be set and/or verified by a Registered Professional Land Surveyor licensed in the State of Georgia.

The DB Team shall establish and maintain a permanent horizontal and vertical primary survey control network. The control network should consist of, at minimum, horizontal deltas coordinated and elevated set in intervisible pairs at spacing of no greater than three (3) miles. Control monuments set by the DB Team shall be installed per the National Geodetic Survey (NGS) guidelines (*National Geodetic Survey July 1996*). The horizontal deltas shall be installed per the *GDOT Automated Survey Manual*. Prior to construction, the DB Team in coordination with GDOT shall provide NOAA no less than a 90-day notification of planned activities that will disturb or destroy any geodetic control monuments. This will provide time to plan for and execute relocation of geodetic monuments. DB Team shall replace all existing horizontal and vertical primary survey control points disturbed or destroyed. DB Team shall make all survey computations and observations necessary to establish the exact position and elevation of all other control points based on the primary survey control.

The DB Team shall deliver to GDOT a survey control package in accordance with the *GDOT Automated Survey Manual*. In addition, DB Team shall deliver to GDOT a revised survey control package when survey monuments or control points are disturbed, destroyed or found to be in error.

9.3.3 Conventional Method (Horizontal & Vertical)

If the DB Team chooses to use conventional methods to establish additional horizontal control, the DB Team shall meet the accuracy of the appropriate level of survey as defined in the *GDOT Automated Survey Manual*.

9.3.3.1 Horizontal Accuracy Requirements for Conventional Surveys

Horizontal control is to be established (at a minimum) on the Georgia State Plane Coordinate System of 1985[NAD83 or GCS 85].

Upon request by the DB Team, GDOT will compile and provide to DB Team a survey control package of existing GDOT approved survey monumented data in the Project vicinity.

9.3.3.2 Vertical Accuracy Requirements for Conventional Surveys

Vertical control shall be established on the North American Vertical Datum of 1988 (NAVD 1988).

Table 9-1

	1st Order	**2nd Order**	**3rd Order**	**Remarks And Formulae**
Error of Closure	0.013 feet $\sqrt{M}$	0.026 feet $\sqrt{M}$	0.049 feet √M	Loop or between control monuments
Maximum Length of Sight	250 feet	300 feet		With good atmospheric conditions
Difference in Foresight and Backsight Distances	±10 feet	±20 feet	±30 feet	Per instrument set up
Total Difference in Foresight and Backsight Distances	±20 feet per second	±50 feet per second	±70 feet per second	Per total section or loop
Recommended Length of Section or Loop	2.0 miles	3.0 miles	4.0 miles	Maximum distance before closing or in loop
Maximum Recommended Distance Between Benchmarks	2000 feet	2500 feet	3000 feet	Permanent or temporary benchmarks set or observed along the route
Level Rod Reading	± 0.001 foot	± 0.001 foot	± 0.001 foot	
Recommended Instruments and Leveling Rods	Automatic or tilting w/ parallel plate micrometer precise rods	Automatic or tilting w/ optical micrometer precise rods	Automatic or quality spirit standard, quality rod	When two or more level rods are used, they should be identically matched

Principal Uses	Broad area control, subsidence or motion studies jig & tool settings	Broad area control, engineering projects basis for subsequent level work	Small area control, drainage studies, some construction and engineering	

9.3.4 Reserved

9.3.5 Right of Way Surveys

The DB Team shall base all surveys on the primary horizontal and vertical control network established for the Project.

9.3.5.1 Accuracy Standard

In performing ROW surveys consisting of boundary locations, the DB Team shall meet the accuracy standards of the appropriate level of survey as defined in the following table.

Table 9-2: Chart of Tolerances

	Urban / Rural	**Urban Business District**	**Remarks and Formulae**
Error of Closure	1:10,000	1:15,000	Loop or between Control Monuments
Angular Closure	15" $\sqrt{N}$	10" $\sqrt{N}$	N = Number of Angles in Traverse
Accuracy of Bearing in Relation to Source *	20 "	15 "	Sin α = denominator in error of closure divided into 1 (approx.)
Linear Distance Accuracy	0.1 foot per 1,000 feet	0.05 foot per 1,000 feet	Sin α x 1000 (approx.) where ± = Accuracy of Bearing
Positional Error of any Monument	*AC*/10,000	*AC*/15,000	*AC* = length of any course in traverse
Adjusted Mathematical Closure of Survey (No Less Than)	1:50,000	1:50,000	

* GDOT policy requires all bearings or angles be based on the following source: Grid bearing of the Georgia Coordinate System of 1985, with the proper zone and epoch specified.

9.3.6 Survey Records and Reports

The DB Team may use electronic field books to collect and store raw data. The DB Team shall preserve original raw data and document any changes or corrections made to field data, such as station name, height of instrument, or target. The DB Team shall also preserve raw and corrected field data in hardcopy output forms in a similar manner to conventional field books for preservation.

Field survey data and sketches that cannot be efficiently recorded in the electronic field Volume shall be recorded in a field note Volume and stored with copies of the electronic data.

All field notes shall be recorded in permanently bound books. (Loose leaf field notes will not be allowed.) The DB Team shall deliver copies of any or all field note Volumes to GDOT upon request.

9.4 Construction Requirements

9.4.1 Units

Comply with the Design Requirements in Section 9.3.

9.4.2 Construction Surveys

Comply with the Design Requirements in Section 9.3.

9.5 Deliverables

9.5.1 Final ROW Surveying and Mapping

The documents produced by the Surveyor, or the Surveyor's subcontractors, are the property of GDOT, and release of any such document shall be approved by GDOT.

All topographic mapping created by the DB Team shall be provided to GDOT in digital terrain model format using the software and version thereof being used by GDOT at the time of delivery.

9.5.2 ROW Monuments

Upon completion of the ROW acquisition and all Construction Work, such that the Final ROW Lines will not be disturbed by construction, the DB Team shall set permanent and stable concrete ROW monuments (constructed according to current GDOT specifications) located on the final ROW line at all points of curvature (PCs), points of tangency (PTs), points of intersection (PIs), miters and breaks, points of compound curvature (PCCs), points of reverse curvature (PRCs), and all intersecting crossroad ROW lines. In addition, the DB Team shall set permanent and stable concrete ROW monuments (constructed according to current GDOT specifications) located on all final ROW lines where the distance between such significant ROW line points exceeds fifteen hundred (1,500) feet.

The DB Team shall purchase all materials, supplies, and other items necessary for proper survey monumentation.

10 GRADING

10.1 General

DB Team shall conduct all Work necessary to meet the requirements of grading, including clearing and grubbing, excavation and embankment, removal of existing buildings, pavement and miscellaneous structures, subgrade preparation and stabilization, dust control, aggregate surfacing and earth shouldering, in accordance with Volume 3 Manuals (Technical Documents).

Borrow, Stockpile, and Waste Sites: All Borrow, Stockpile, and Waste Sites for this Project shall be environmentally approved prior to construction activities occurring in them. All common fill or excess material disposed of outside project right of way shall be placed in either a permitted solid waste facility, a permitted inert waste landfill, or in an engineered fill. See Section 201 of the Standard Specification and Supplements thereto for additional information.

There is no suitable place to bury existing bridge and/or construction debris within the project's limits. The DB Team shall provide an environmentally approved site to dispose the existing bridge and/or construction debris at no additional cost to GDOT.

Any features that are abandoned in place, e.g.; parking lots, abandoned pavements, sidewalks, driveways, catch basins, drop inlets, pipes, manholes, curbing, retaining walls, utilities, foundations, paved floors, underground tanks, fences, bridges, buildings, and other incidental structures shall be removed to the following depths:

Abandoned Pavements: Ensure existing pavement inside the Project Limits no longer being used is obliterated, graded to drain, and grassed.

Abandoned Pipes: Ensure abandoned pipes that are left in place are grout filled or filled with flowable fill.

Under Pavements: Remove to a depth of at least three (3) feet below the finished subgrade elevation.

Underneath Other Structures: Remove to at least three (3) feet below the foundations of any proposed structure, including installations such as guard rail posts and utility poles.

Elsewhere in the Right of Way and easement areas: Remove as follows: Remove to at least three (3) feet below the finished surface of slopes and shoulders and one (1) foot below natural ground outside construction lines.

Thoroughly crack or break abandoned structures that may impound water. These structures include but are not limited to concrete floors, basements, and catch basins within ten (10) feet of finished grade.

Break floors so that no section greater than ten (10) square feet remains intact.

10.2 Preparation within Project Limits

DB Team shall develop, implement, and maintain, for the Term, a Demolition and Abandonment Plan for all existing structures, features, and utilities as described in Section 10.1 above (types and sizes) that will be removed, abandoned or partially abandoned during the Term. The plan shall ensure that said structures are structurally sound after the abandonment procedure. The plan should show the locations of all existing features as listed in Section 10.1 that will be abandoned and the plan should show sufficient detail for the abandonment.

GDOT reserves the right to require DB Team, at any time to salvage equipment and/or material in an undamaged condition and deliver to a location designated by GDOT within the GDOT District in which the Project is located, any GDOT-owned equipment and materials in an undamaged condition. GDOT shall have first right of refusal to retain any salvage material or equipment. If GDOT decides not to salvage the material or equipment the DB Team may take possession but not reuse for the Project. All material incorporated into the Project shall be new.

The material from structures designated for demolition shall be DB Team's property. All material removed shall be properly disposed of by DB Team outside the limits of the Project.

10.3 Slopes and Topsoil

DB Team shall comply with Volume 3 Manuals regarding design limitations and roadside safety guidelines associated with the design of slopes along roadways. DB Team shall adjust grading to avoid and minimize disturbance to the identified waters of the U.S. DB Teams grading plan shall be in accordance with the approved Environmental Documents however the DB Team shall secure all associated Governmental Approvals to meet the Released for Construction (RFC) plans.

DB Team shall perform finished grading and place topsoil in all areas suitable for vegetative slope stabilization (and areas outside the limits of grading that are disturbed in the course of the Work) that are not paved.

DB Team shall clear the entirety of cut slopes within the available Right of Way. Debris shall be removed by the DB Team.

10.4 Deliverables

10.4.1 Released for Construction Documents

The Demolition and Abandonment plan shall be submitted to GDOT for acceptance no later than one hundred and eighty (180) Days from NTP 1 but must be completed prior to any Construction Phase as specified in Section 23.

11 ROADWAYS

11.1 General Requirements

The objectives of the Project include the provision of a safe, reliable, cost-effective, and aesthetically-pleasing corridor for the traveling public. The requirements contained in this Section 11 provide the framework for the design and construction of the roadway improvements to help attain the project objectives.

DB Team shall coordinate their roadway design, construction, maintenance, and operation with all other Work planned or under construction by GDOT and/or Governmental Entity.

Whenever DB Team receives a design request from an adjacent property owner, DB Team shall, within thirty (30) Days of the request, produce a report to GDOT identifying the nature of the request, the financial consequences to GDOT of compliance (if any), DB Team's assessment of the feasibility of compliance, any Change Requests from the Technical Provisions that would be required and any potential risks to GDOT that may arise from implementation of the design request such as environmental and permitting risks. Where DB Team determines that there are no financial consequences to GDOT, time impacts to the Project and Change Request from the Technical Provisions, and provided that GDOT raises no objection within thirty (30) Days of DB Team's report, DB Team may proceed with the implementation of the design request at its option and shall advise GDOT in writing of its decision.

No open cutting (removal of pavement to construct, repair, or relocate utilities/drainage structures or for any purposes that cause a full depth cut of existing pavement and removal of any subgrade beneath) of the Travel Lane pavements or ramp pavements shall be allowed without prior acceptance of GDOT. Any pavement that is open cut as described in this paragraph shall be repaired in kind prior to the Travel Lane or ramp being opened to traffic.

The stockpiling of materials may be permitted on a case by case basis provided that participation is based on the appropriate value of approved specification materials delivered by the DB Team to the project site, or other designated location in the vicinity of the project and the terms and conditions below. Stockpiled materials that may qualify for material allowances include materials that are not readily available, can be easily identified and secured for this project, and, can be stockpiled for long periods without detriment. The procedure identified in GDOT Supplement Specifications 109.07.B shall be used to process a Material Allowance Request. Other provisions include:

- Stockpiles shall be constructed in conformity with the provisions in the current GDOT Standard Specifications. Appropriate erosion control measures shall be placed and maintained, and the site shall be restored to its original condition. the DB Team will provide satisfactory evidence of insurance against loss by damage or disappearance,

- The stockpiled material is stored in such a manner that security and inventory can be maintained, and the contractor is responsible for any costs of storage of said materials.
- The material is supported by a paid invoice or receipt for delivery, with the DB Team to furnish the paid invoice within a reasonable time after receiving payment.
- The material conforms with the requirements of the plans and specifications,
- Any damage to material due to the delay in incorporation of the material into the Final Plans , shall be at the risk of the DB Team, and
- The quantity of material does not exceed the quantity required by the project, nor does the value exceed the appropriate portion of the contract item in which the material is to be incorporated.

11.2 Design Requirements

The design of the Project shall be in accordance with the Environmental Document approvals and Volume 3 Manuals (Technical Documents) and the DB Documents.

DB Team shall coordinate its roadway design with the design of all other components of the Project. The Project roadways shall be designed to integrate with streets and roadways that are adjacent or connecting to the Project.

The Project roadways shall be designed to incorporate roadway appurtenances, including, but not limited to fences, noise attenuators, barriers, and hazard protection as necessary to promote safety and to mitigate visual and noise impacts on neighboring properties. Fence type shall be replaced in accordance with GDOT Construction Standards and Details. Should the existing type of fence not match the type provided in the GDOT Construction Standards and Details, the type of proposed fence shall be accepted by GDOT.

The DB Team shall design and construct any and all proposed intersection reconstruction or rehabilitation to meet the requirements of the Environmental Document Approvals and Volume 3 Manuals (Technical Documents).

Vibration Control

The DB Team is responsible for any and all vibration related damages to existing structures or other facilities located in the vicinity of construction related activities. Where vibration-inducing construction activities are to be performed in the vicinity of existing properties, structures, utilities, or other facilities, the DB Team shall evaluate potential impacts and develop a Vibration Control Plan for GDOT review and acceptance. The plan shall include certain triggers of action to ensure no damage to existing structures occurs as well as a means to resolve public concerns for the vibration at any level. Additional requirements for the Vibration Control Plan are as follows:

1. Use attenuation relationships published by applicable governmental agencies and/or applicable equipment manufacturers to estimate the zones within which vibrations caused by the Project may impact existing properties and facilities.
2. Within the zone of potential vibration impacts, conduct site reconnaissance of properties during site investigations to determine the sensitivity of each structure/facility to vibrations.
3. List all properties that may be adversely affected by vibrations.
4. Conduct a preconstruction survey of each structure determined to be susceptible to vibrations.
5. Provide the GDOT with recommendations to mitigate that may be adversely affected by vibrations.
6. Use the vibration monitoring records to develop attenuation curves for predicting vibrations at varying distances from the source.

The DB Team shall adjust operations immediately if the threshold readings above are exceeded.

Blasting

Follow GDOT Standard Specification 107.12 and Supplemental Specifications 107.12 2016 Edition.

Control of Access

DB Team shall maintain all existing property accesses, including those not shown on the schematic, and shall not revise control of access without GDOT review and the written agreement of the affected property owner. Access control shall be in conformance with the GDOT *Regulations for Driveway and Encroachment Control*.

11.2.1 Typical Section(s) and Pavement Design

Refer to volume 2.

11.2.2 Additional Roadway Design Requirements

DB Team shall coordinate, design and construct the improvements on crossing streets in accordance with the Governmental Entity having jurisdiction of said roadway. All roadside safety devices used on the Project shall meet current crash test and other safety requirements that meet or exceed current GDOT requirements. GDOT does not allow longitudinal pavement joints in the wheel path of the traveling public unless otherwise accepted by GDOT.

When designing and constructing hardscape elements at intersections, at a minimum, DB Team shall use colored textured concrete in all raised medians. Monolithic concrete medians will not be accepted. Stamped concrete may only be used where local communities agree to maintain them, and where it meets the requirements in GDOT specifications, policies, procedures and Volume 3 Manuals (Technical Documents).

Concrete paving shall be used in hard to reach mowing areas or under structures (such as, but not limited to, areas near or next to or between guard fence posts, sign posts, bent columns, next to retaining walls, freeway ramp gores, paved ditches, flumes, ditch inlets, etc.) to improve roadway appearance.

When guardrail is required on interstates, freeways, and other 4-lane roadways, shoulder paving shall be extended beyond the usable paved shoulder to conform to GDOT Standards and Details.

When construction impacts existing cable barrier that will remain in place, new end terminals shall be installed as required to ensure cable barrier remains in operation at all times. If existing cable barrier cannot remain in operation during construction, temporary concrete barrier shall be installed in the same general location as the existing cable barrier for the full length impacted, including approaches.

11.2.3 Allowable Design Exception(s)/Variance(s)

Refer to volume 2.

11.2.4 Visual Quality

When lighting is required, DB Team shall provide luminaries of equal height along the roadway.

11.2.5 Permanent Lighting

The DB Team shall design the lighting of the Project in accordance with Volume 3 Manuals (Technical Provisions), the DB Documents, and at a minimum shall match the existing lighting illumination. The DB Team shall also make all necessary enhancements or changes to the existing lighting system to maintain the existing illumination if diminished by the Project.

DB Team shall install mechanical copper wire theft deterrent devices in all Project electrical conduits supplying power to the Project. The theft deterrent devices typically consist of a rubber stopper mechanical device that compress against the electrical wiring and prevents the wires from being easily pulled through the conduits. DB Team shall also install electrical pull box lids that contain locking mechanisms that works with the use of cams to prevent unauthorized access.

DB Team shall prepare lighting studies that consider illumination levels, uniformity, and sources for the roadways, interchanges, and special areas including local roadway intersections. DB Team shall maintain an average horizontal luminance on the roadways that provided consistent illumination.

All third-party requests for lighting within the Project Site shall be subject to GDOT acceptance.

DB Team shall provide an average to minimum uniformity ratio per AASHTO's *Standard Specifications for Structural Supports for Highway Signs*, *Luminaire, and Traffic Signals*, the Illuminating Engineering Society of North America (IESNA) RP-8-14 *Roadway Lighting Standard Practice for Roadway Lighting* and AASHTO's *Roadway Lighting Design Guide* for tolled lanes, general use lanes, High Occupancy Vehicle (HOV) lanes, auxiliary lanes, ramps, frontage roads, and ramp terminal intersections with cross streets.

DB Team shall design the lighting system to minimize or eliminate illumination of areas outside the Existing ROW. Luminaires shall be, at a minimum, high pressure sodium and be in accordance with GDOT guidelines. Neither mercury vapor nor metal halide is allowed. Other energy efficient lighting technology will be considered by GDOT with acceptance. Where LED or other energy efficient light fixtures are an efficient alternative, they should be used.

DB Team shall design and construct the lighting system in a manner that will reduce and/or discourage vandalism.

Luminaire poles and breakaway bases shall be designed in accordance with AASHTO's *Standard Specifications for Structural Supports for Highway Signs, Luminaire, and Traffic Signals*. The DB Team shall install breakaway wiring connectors when using luminaire poles and breakaway bases. For all poles located within the clear zone of the roadways, DB Team's design shall incorporate breakaway devices that are pre-qualified by GDOT. Appropriate safety measures shall be used if DB Team does not use luminaire poles and breakaway bases. Luminaire poles and breakaway bases shall not be used when mounted on side barriers, median barriers or bridge structures.

DB Team shall place all understructure lighting in a configuration that minimizes the need for lane closures during maintenance.

DB Team shall determine and design appropriate foundation types and lengths for permanent lighting structures. GDOT requires consistent footing designs and has a minimum footing size criteria as follows:

Height of Pole in feet	**Diameter by depth of footing in**
Less than or equal to 40'	2' by 6'
40' to 50'	3' by 7'
50' to 60'	3' by 9'
High Mast min - 100' or greater	4' by 20'
NOTE: Poles for barrier mounted have a minimum of 2' by 4' base	

DB Team shall not place ITS cable, fiber-optic lines, signal conductors, or any other non-lighting related cables or conductors in the lighting conduit, ground boxes, or junction boxes.

Top latch mechanisms shall be used on all high mast lighting towers.

DB Team shall minimize the potential hazards of lighting poles through the careful consideration of mounting options and pole placements, including the following options:

- Placing mast arms on traffic signal poles
- Placing pole bases on existing or proposed concrete traffic barrier
- Placing poles behind existing or proposed concrete traffic barrier, guardrail or cable barrier
- Placing high mast lighting outside the clear zone, especially in roadway horizontal curves

DB Team shall ensure that lighting structures comply with Federal Aviation Administration (FAA) height restrictions within five (5) miles airport facilities. In the event that proposed or existing luminaries, mast arms, or poles infringe into an airport's or heliport's base surface, DB Team shall coordinate with the FAA and GDOT to permit or relocate such structures. If FAA restrictions prohibit lighting structures from being placed in certain areas near an airport Project, DB Team shall find alternative ways of providing the required level of lighting.

DB Team shall coordinate with the Utility Owner(s) and ensure power service is initiated and maintained for permanent lighting systems. Where the Work impacts existing lighting, DB Team shall maintain the existing lighting as temporary lighting during construction and restore or replace prior to Substantial Completion.

DB Team shall place all bore pits safely away from traffic, provide positive barrier protection, and provide necessary signs to warn of the construction area.

DB Team shall contact Utility Owners regarding their specific required working clearance requirements.

DB Team shall ensure that roadway lighting is provided for the safety of vehicles and pedestrians as they approach local intersections.

DB Team shall affix an identification decal on each luminaire, ground box, and electrical service for inventory purposes and shall submit inventory information to GDOT in a GDOT-compatible format. This identification shall denote that these are property of GDOT and shall provide a contact phone number and address in the event of Emergency.

11.2.6 Related Transportation Facilities

DB Team shall design and construct all new roadway and bridges to accommodate the planned expansions or updates of Related Transportation Facilities as designated in the current transportation master plans found in Volume 2.

11.3 Deliverables

The DB Team shall provide the Submittals as required in Section 23 and in the DB Documents.

12 DRAINAGE

12.1 General Requirements

Effective performance of the Drainage System is an integral part of the success of the Project. All stormwater runoff that flows through the Project, whether originating within or outside the Project, must be accounted for in the design of the Drainage System. All existing and proposed riverine/tidal bridges, stormwater conveyances (open-channel and closed-conduit), inlets, and stormwater management such as detention/retention ponds are included as part of the Drainage System.

The design of the Project shall be in accordance with Volume 3 Manuals (Technical Documents) and the requirements of the DB Documents and Government Approvals.

The Drainage System shall meet the following requirements:

- The analysis, design, and construction of all components of the Drainage System shall address the interim conditions during construction of the Project and the Final Plans; and
- The System shall have adequate capacity to convey all stormwater through the Project without any adverse impacts to upstream and/or downstream adjacent properties.

12.2 Administrative Requirements

12.2.1 Data Collection

The DB Team shall collect all necessary data, including those components outlined in this Section 12.2.1, to establish a Drainage System that complies with the requirements and accommodates the historical hydrologic flows within the Project limits.

The DB Team shall collect all available data identifying stormwater runoff obligations, including;

- Water quality regulations as imposed by local, State and federal governments;
- National Wetland Inventory and any other wetland/protected waters inventories;
- Any local floodplain ordinances in effective Federal Emergency Management Agency (FEMA) floodplains;
- Any restrictions on discharging storm water to environmentally sensitive areas, navigable waters or coastal zones; and
- Official documents concerning the Project, such as the Environmental Documents and any other drainage or environmental studies.

The DB Team shall determine any stormwater runoff issues that may include areas with historically inadequate drainage (evidence of flooding or citizen complaints of flooding), maintenance problems associated with drainage, and areas known to contain

Hazardous Materials. The DB Team shall identify watershed boundaries, protected waters, areas classified as wetlands, floodplains, and boundaries between regulatory agencies (e.g., watershed districts and watershed management organizations).

The DB Team shall acquire all applicable municipal drainage plans, watershed management plans, coastal zone management plans and records of citizen concerns. The DB Team shall acquire all pertinent existing storm drain plans, bridge hydraulic studies and/or survey data, including data for all culverts, drainage systems, storm sewer systems, and bridge sites within the Project limits. The DB Team shall also identify existing drainage areas and calculate the estimated runoff to the highway drainage system.

The DB Team shall obtain photogrammetric and/or geographic information system (GIS) data for the Project limits that depicts any impaired waters as listed by EPD. The DB Team shall conduct surveys for information not available from other sources.

If documentation is not available for certain components of the existing drainage system within the Project limits and these Components are scheduled to remain in place, The DB Team shall investigate and video record or photograph these components to determine condition, size, material, location, and other pertinent information.

The data collected shall be taken into account in the Final Plans of the drainage facilities.

12.2.2 Coordination with Other Agencies

The DB Team shall coordinate all stormwater runoff issues with affected interested parties and regulatory agencies, including but not limited to EPD, USACE, and USFWS. The DB Team shall document any resolutions of stormwater runoff issues.

12.3 Design Requirements

Within the Construction Maintenance Limits, the DB Team shall upgrade all substandard drainage facilities where the design and construction of the Project propose to utilize or impact those facilities. A substandard drainage facility is any stormwater drainage system component where the existing structural condition per Section 13 and/or hydraulic capacity per this Section 12 is inadequate to carry additional stormwater generated by the Project. The design of the Drainage System shall include reconfiguration of the existing drainage systems within the Project limits and design of new storm drainage systems as required per the performance requirements, defined in this Section 12.

Damage to existing infrastructure due to the DB Team's operation shall be immediately repaired to maintain existing system capacity at all times. This permanent repair shall be at the DB Team's expense.

The DB Team shall provide facilities compatible with the existing drainage system and all applicable municipal drainage plans or systems in adjacent properties. The DB Team shall preserve existing drainage patterns wherever possible.

The DB Team may utilize the existing drainage facilities, provided overall drainage requirements for the Project are achieved. Modifications of existing systems or installations of new drainage systems to create in-line/buried/subsurface/underground detention or stormwater runoff storage shall not be allowed. The use of blind junctions and/or non-accessible structures shall not be allowed unless otherwise approved in writing by GDOT. The DB Team shall not install and/or utilize longitudinal storm sewer pipe under travel lanes unless otherwise approved in writing by GDOT. If no modification or upgrading of the existing GDOT stormwater system is required, the DB Team shall at a minimum maintain the existing system. This maintenance includes but is not limited to silt removal from any pipe, ditch, or structure and removal of any debris prior to the use of any existing GDOT stormwater system. This maintenance shall be at the DB Team's expense.

The DB Team shall base its Final Plans on design computations and risk assessments for all aspects of Project drainage.

The DB Team shall design channels and ditches such that erosion within and downstream of the channels and ditches is minimized. Roadside and median channel design shall be based on the design storm events specified in GDOT's Manual on Drainage Design for Highways (Drainage Manual). The design high water elevation should be at least 6" below the roadway's normal shoulder break point. The travel lane should not be encroached upon during the 50 year design storm event. On depressed roadways/sections, at low points and sag locations/areas/points, all median drains should be designed for the 50 year design storm event such that the water will not reach the bottom of the pavement structure. All roadway, berm, surface, and outfall ditches should be designed such that the 25 year design storm event will not reach the bottom of the pavement structure. A 50 year design storm event should be used for ditches and channels at low points where flow must escape through an inlet. This requirement does not apply to roadways where water can escape over a curb, roadway, etc. into another channel. If these requirements are not achievable with a channel, the DB Team may design an open concrete-lined conveyance limiting ponding per Section 12.3.2.3, Gutter Spread/Ponding.

The DB Team shall coordinate with FEMA and/or the appropriate local community regarding any impacts to regulatory floodways and floodplains. In the event a Conditional Letter of Map Revision (CLOMR) is required, local community approval and the subsequent submission to FEMA shall occur as early in the Project timeline as possible. The DB Team shall allow up to one (1) year in the schedule for FEMA approval of any required CLOMR review.

The DB Team shall design the Project to follow FEMA regulations in FEMA regulated floodplains. This design may include but is not limited to bridge structures over streams,

bridge(s) or bottomless culverts over streams, increasing the tie slope and/or utilizing retaining walls to reduce fill in the floodplain/floodway.

All areas of the Project shall comply with the Post-Construction Stormwater Design Guidelines contained in the Drainage Manual.

Flood damage potential for the completed Project shall not exceed pre-Project conditions.

12.3.1 Surface Hydrology

12.3.1.1 Design Frequencies

The DB Team shall use the Design Discharge Criteria in the Drainage Manual and comply with Code of Federal Regulations (CFR) Part 650-Bridges, Structures, and Hydraulics.

If a design storm frequency is not specified for a given component of the temporary Drainage System, the DB Team shall use the design storm frequency for the corresponding Final Plans Facility.

12.3.1.2 Hydrologic Analysis

The DB Team shall design the drainage system to accommodate the Project drainage areas. These areas may extend outside of the Project limits.

The DB Team shall perform hydrologic analyses for the design of drainage features during the staging of construction and for the Final Plans for the Project according to the Drainage Manual.

12.3.2 Storm Sewer Systems

Where precluded from handling runoff with open channels or ditches, the DB Team shall design enclosed storm sewer systems to collect and convey runoff to appropriate discharge points.

The DB Team shall prepare a storm sewer drainage report encompassing all storm sewer systems that contains, at a minimum, the following:

- Drainage area maps with each storm drain inlet and its pertinent data, such as delineated drainage area, topographic contours, runoff coefficients/design curve numbers, times of concentration, land uses, discharges, velocities and headwater elevations;
- Detailed tabulation of all existing and proposed storm drains. This includes but may not be limited to conveyance size and class or gauge; catch basin spacing/location and detailed structure designs;

- Specifications for the pipe bedding material and structural pipe backfill on all proposed pipes and pipe material alternates; and
- Storm drain profiles, including pipe size, length, type, height of fill, class/gauge, gradient and design hydraulic grade line (HGL); and numbered drainage structures with station offsets from the roadway alignment and elevations.

12.3.2.1 Pipes

Storm drains shall be designed with design flow velocities greater than or equal to three (3) feet per second (fps) or slopes greater than or equal to 0.0100 ft/ft to prevent sedimentation in the pipe. Storm drains shall be designed to prevent surcharging of the system at the flow rate for the design year event.

All storm drains shall be reinforced concrete unless accepted otherwise by GDOT prior to installation. The DB Team shall adhere to the approved Geotechnical Engineering Report and ensure appropriate materials are used pursuant to Section 8.

Minimum pipe inside diameter shall be eighteen (18) inches. GDOT acceptance shall be required for all existing pipes to be replaced with a diameter less than eighteen (18) inches.

Existing pipe systems not meeting GDOT's maximum structure spacing requirement that are not being impacted by the construction of the Project may remain. If an existing system is impacted it shall be upgraded to meet the requirements of this Section 12.

Some existing culverts and storm drains were designed with a "step down" structural capacity. This step down design for reduced structural capacity occurs in the dead load zone of the fill slopes. Where there is "step down", the section of culvert/storm drain within the dead load influence has less structural capacity than the section of culvert/storm drain within the live and dead load influences. For the Project, the DB Team shall design all stormwater conveyances to accommodate all live and dead loads from the existing and proposed roadway system.

12.3.2.2 Municipal Separate Storm Sewer System

The DB Team shall follow requirements in the Drainage Manual section 10.2.2, MS4 Related Post-Construction Stormwater Requirements for compliance with GDOT's General NPDES Stormwater Permit No. GAR 041000 (MS4 Permit). The DB Team shall also be directly responsible for the following minimum control measures within the MS4 Permit, as directed by GDOT:

- Public Involvement/Participation;
- Illicit Discharge Detection and Elimination as found in the Stormwater System Inspection and Maintenance Manual on the SharePoint site;
- Construction site stormwater runoff control; and

- Pollution prevention housekeeping for municipal operations as found in the Facilities Stormwater Pollution Prevention Plan on the SharePoint site.

Thirty (30) Days prior to the end of each reporting period as required in the MS4 Permit, the DB Team shall provide to GDOT annual report data covering the portion of GDOT's MS4 within the Project limits. The DB Team shall submit to GDOT a signed and sealed Post-Construction Stormwater Report prepared per the Drainage Manual for review and approval. Upon GDOT approval the Report will be sent to EPD per the permit requirements. EPD will have 90 days to disapprove the Report. GDOT will not issue substantial completion until after the 90 day EPD disapproval period ends. The DB Team may proceed with construction prior to the 90 days expiring at their own risk. GDOT will not issue reimbursement for any revisions to installed post construction BMPs as required by EPD.

The DB Team shall:

- Attend a GDOT/EPD approved training program to educate contractors and employees conducting activities that may impact stormwater runoff;
- For existing conditions, provide GIS data of the existing storm sewer system and all ditches within the ROW prior to the start of any Construction Phase. This GIS data shall comply with GDOT's Supplemental Specification 156 and MS4 policy guidance;
- Mark all proposed storm drain access covers within the Project limits with a GDOT approved medallion educating the public to the destination of the storm drain contents;
- Provide as-built GIS data of the entire storm drain system within the ROW;
- Clean the existing drainage system sufficiently enough to allow for the proper detailed inspection of the system within the Project limits and as required in Section 19 for any proposed stormwater systems;
- Inspect outfalls for illicit discharges according to GDOT's Illicit Discharge Detection and Elimination Plan while mapping the storm sewer system within the ROW. This inspection shall identify any dry weather flows and determine if these flows are from an illicit discharge. Documentation of the outfall inspections conducted each year shall be submitted to GDOT for inclusion in the annual report;
- Trace and eliminate any identified illicit discharges according to GDOT's Illicit Discharge Detection and Elimination Plan that are found to originate within the Project limits; and
- Report to GDOT all other identified illicit discharges.

12.3.2.3 Gutter Spread/Ponding

The DB Team shall design pavement drainage systems, in both staging of construction and the proposed project, to limit ponding to the widths listed below for the design storm frequency:

- For all interstate highways and all roads other than interstates with design speeds of greater than 45 mph; ponding shall be confined within the shoulder. In no event shall any ponding occur in an interstate travel lane;
- For all roads other than interstates with design speeds of 45 mph or less, ponding shall be confined to within half (½) the lane adjacent the gutter/shoulder and the gutter/shoulder; and
- For all bridge decks, ponding shall be limited according to Section 13.2.2 Design Spread and Frequency in the Drainage Manual.

Note: Bicycle lanes are considered part of the shoulder.

Concentrated stormwater shall not be allowed/released to flow across any travel lane within the Project. The term "shallow-concentrated" shall be synonymous with "concentrated" with respect to flows across travel lanes. Only sheet flow shall be allowed to flow across travel lanes.

12.3.3 Hydraulic Structures (Culverts/Bridges)

The DB Team shall analyze existing and proposed culverts and bridges impacted, replaced, or created by the Project design, for any flooding problems.

For all culverts, the DB Team shall determine the allowable headwater depth (HWd) for the design-year storm per the Drainage Manual and based on items such as potential damage or loss of use to adjacent property, the culvert, roadway, stream and/or floodplain, as well as traffic interruption or hazard to human life.

All hydraulic computations, designs, and recommendations shall be consistent with past studies and projects in the area performed by local, State, or federal agencies.

Where hydraulic design is influenced by upstream storage and/or tidal surges, the analysis of the storage and/or the tidal surges shall be considered in the design of the structure.

Bridge culverts shall have a minimum rise dimension of four (4) feet.

12.3.3.1 Method Used to Estimate Flows

The DB Team shall ensure the selected hydrologic method is appropriate for the watershed conditions.

As appropriate, the DB Team shall utilize flow information within FEMA Flood Insurance Studies (FIS) and any subsequent Letters of Map Revision (LOMR).

For crossings not located within a FEMA FIS or on a gauged waterway, the DB Team shall utilize the required method for calculating the design flows according to the Drainage Manual.

12.3.3.2 Design Frequency

Culverts and storm drain systems shall be designed for the Design Storm Event according to the Design Discharge Criteria in the Drainage Manual. Bridges shall be designed for the fifty (50) and one hundred- (100) year frequencies.

12.3.3.3 Hydraulic Analysis

The DB Team shall evaluate a bridge(s) for contraction and pier scour concerns and shall design for scour protection in accordance with the Drainage Manual.

For bridge abutments in urban areas, the DB Team shall install protection in accordance with Section 15 Landscape and Hardscape Enhancements.

12.3.3.4 Riverine Bridge/ Bridge Culvert Design

For existing bridges, the DB Team shall analyze each structure with the proposed flows to ensure it provides the required freeboard per the Drainage Manual. If this requirement is not met, the DB Team shall design and construct a replacement structure with sufficient capacity to pass the Design Storm Event flows while providing the required freeboards.

For existing bridge culverts, the DB Team shall analyze each structure with the proposed flows to ensure the headwater does not exceed that of the allowable headwater per the Drainage Manual. If this requirement is not met, the DB Team shall design and construct a replacement structure with sufficient capacity to pass the proposed Design Storm Event with a resulting headwater depth of no greater than the HW_d.

Bridge/bridge culvert design shall maintain the existing channel morphology through the structure, if possible.

12.3.3.5 Bridge Deck Drainage

Runoff from bridge decks shall be carried off the bridge and into the adjoining roadway drainage system. The roadway drainage design shall include bridge approach drains to intercept gutter/shoulder flow at each end of the bridge. Stormwater flowing toward the bridge shall be intercepted upstream of the bridge.

Open deck drains are not permissible for bridges passing over environmentally sensitive areas, roadways or railroads. In these situations, if ponding will exceed width limits, runoff shall be collected in inlets and conveyed in a closed deck drain system before discharging outside of these areas.

12.3.3.6 Drainage Report for Hydraulic Structures

The DB Team shall prepare a Hydraulic and Hydrologic (H&H) Study and any other required documentation for all existing and/or proposed river and tidal bridge sites and for culverts that meet any of the conditions listed in the Drainage Manual section 12.1 and any Environmental Commitments identified in the Approval of the Environmental Documents. Additional documentation may include but not be limited to the preparation and submittal of any CLOMR or LOMR required for community and/or FEMA coordination. The H&H Study shall further include the detailed calculations with electronic and printed copies of the computer software input and output files, as well as a discussion about hydrologic and hydraulic analysis and reasons for the design recommendations. At a minimum, for each crossing the H&H Study shall include:

Hydrology

- Drainage area maps with watershed characteristics (hardcopy);
- Hydrologic calculations (where computer software is used, both hardcopy report and electronic input and output files on a disc); and
- Historical or site data used to review computed flows.

Hydraulics and Recommended Waterway Opening and/or Structure

- Photographs of Site (pre- and post-construction);
- General plan, profile, and elevation of recommended waterway opening and/or structure;
- Calculations – include a hardcopy report of output, in addition to electronic input and output files for all computer models used for final analysis or for permit request(s) as well as a summary of the basis of the models;
- Cross-sections of waterway (a hard copy plot, plus any electronic data used); and
- Channel profiles.

Scour Analysis

- Channel cross-sections at bridge(s) showing predicted scour depths;
- Calculations and summary of the calculations table, clearly showing predicted scour and assumptions regarding bridge opening and piers (dimensions, shape, etc.) used to calculate predicted scour;
- Discussion of the potential for long-term degradation/aggradations and effects; and
- Recommendation(s) for abutment protection (type, size, dimensions, etc.).

These H&H Studies shall constitute a section in the Drainage Design Report.

12.4 Construction Requirements

The DB Team shall design the Drainage System to accommodate construction staging. The design shall include temporary erosion control, sediment basins and other BMPs needed to satisfy the NPDES and other regulatory requirements. All environmental approval commitments related to drainage design and erosion control shall be included as "notes" on the plans for each stage of construction.

The DB Team shall obtain GDOT acceptance during the Design-Build Period to utilize any existing stormwater system (any and all pipe, structure, ditch, detention/retention system or any other component necessary for the conveyance of stormwater) outside the Project limits. Maintenance responsibility and costs shall be as follows during the Design-Build Period:

- Initial costs to reconstruct or upgrade the substandard drainage facility(ies) outside of the Project limits, shall be at the sole cost of the DB Team. Rehabilitation of substandard drainage facilities may be considered. The rehabilitation must meet the useful life as if the substandard drainage system structure was replaced as new;
- Any stormwater system accepted by GDOT and constructed for the sole purpose of the Project outside of the Project limits shall be maintained by the DB Team at the DB Team's sole expense;
- The DB Team, at the DB Team's expense, shall be responsible for maintenance and restoration of the existing system to its original intended purpose for any accepted existing stormwater system whether used jointly by the DB Team and GDOT or for the DB Teams sole use; and
- Maintenance work includes but is not limited to silt removal of any pipe, ditch, or structure, and removal of debris prior to the use of any existing GDOT stormwater system.

12.5 Deliverables

The DB Team shall submit to GDOT for review and acceptance, a Drainage Design Report per the accepted Construction Phasing Plan, which shall be a complete documentation of all components of the Project's drainage system. At a minimum, the report shall include:

- A set of all drainage computations, both hydrologic and hydraulic, with all support data;
- Hydraulic notes, models, and tabulations;
- Bridge and culvert designs and Hydraulic reports. (each riverine bridge layout/design shall be submitted at the same time as their corresponding H&H Study);
- Pond designs, including a graphic display of treatment areas and maintenance guidelines for operation;

- A correspondence file;
- Drainage system data (location, type, material, size, and other pertinent information) in a suitable electronic format such as GIS;
- A post-Construction Stormwater Report with a Post-Construction BMP Infeasibility Report as applicable; and
- Storm sewer drainage reports (if applicable) including Temporary and Final Drainage System layout with staged erosion control BMP location details.

13 STRUCTURES

13.1 General Requirements

The structural Elements of the Project, including bridges, culverts, drainage structures, signage supports, illumination assemblies, traffic signals, retaining walls, and noise barrier, shall be designed and constructed in conformance with the requirements of the DB Documents, in order to provide the general public a safe, reliable, and aesthetically-pleasing facility.

DB Team shall prepare a detailed plan for such Elements constructed on the Project with recommended design and construction. The design of the Project shall be in accordance with Volume 3 Manuals (Technical Documents) and the requirements of the DB Documents.

13.2 Design Requirements

13.2.1 Design Parameters

DB Team shall ensure that bridges crossing over waterways are designed in accordance with Section 12 and the DB Documents.

The DB Team shall design and construct all new bridge structures to accommodate any planned expansions or updates of each facility by its respective Governmental Entity or GDOT as designated in their respective current transportation master plans. The current transportation master plans can be found in Section 11 of Volume 2. For the purpose of the Technical Provisions, superstructure is the portion of the bridge above and including the bearings and the substructure is the remaining portion of the bridge below the superstructure.

Longitudinal expansion joints shall not be placed in the travel lane.

DB Team may use GDOT Construction Standards and Details on the Project without updating to meet Load Resistance Factor Design (LRFD) requirements. If DB Team chooses to modify any of the standards and details, the design shall be updated to meet LRFD requirements.

Unless otherwise noted, design and detailing for all structural elements, to be constructed or rehabilitated, and incorporated within the Project (not including future replacement structures), shall be based on the LRFD methodology using the GDOT Bridge and Structures Design Manual (GDOT Bridge Manual) as the primary reference. The current AASHTO LRFD Bridge Design Specifications(AASHTO LRFD Specifications) shall be used in conjunction with GDOT Bridge Manual. Where AASHTO LRFD Specifications and GDOT Bridge Manual requirements contradict or conflict with one another, the GDOT Bridge Manual requirements shall take precedence.

Vertical Clearances

New bridges constructed over the interstate shall provide a minimum vertical clearance of seventeen (17) feet (new box girder bridges shall be seventeen (17) feet six (6) inches). Straddle bent substructure elements over the interstate shall provide a minimum vertical clearance of seventeen (17) feet six (6) inches. New bridges constructed over other roads such as State, Rural Secondary and Urban Routes, as defined by the GDOT Design Policy Manual shall provide a minimum vertical clearance of sixteen (16) feet nine (9) inches.

Bridge Design Live Loads and Load Ratings

All new or widened bridges must be designed to carry an HL-93 vehicle live load. The DB Team is responsible to ensure that the Final Plans of each bridge meet the load rating requirements for the design vehicle as well as all current state legal live loads. GDOT will perform a load rating as part of the final review for each bridge design. Load ratings will be performed according to the current GDOT policy and practices.

Seismic Design

Bridges shall be designed in accordance with the seismic design guidelines in the GDOT LRFD Bridge and Structures Manual as well as the current AASHTO LRFD Bridge Design Specifications.

Fatigue Design

Fatigue design shall be in in accordance the GDOT LRFD Bridge and Structures Manual as well as the current AASHTO LRFD Bridge Design Specifications.

13.2.2 Bridge Decks and Superstructures

Timber bridges, masonry bridges, unpainted weathering steel and structural plate arches will not be permitted. Bridges shall not use intermediate hinges.

DB Team shall minimize the number of deck joints wherever possible. DB Team shall locate joints to provide for maintenance accessibility and future replacement.

To the extent possible, DB Team shall make bridge superstructures, joints, and bearings accessible for long-term inspection and maintenance. DB Team shall make open-framed superstructures accessible with walkways or by use of ladders or an under-bridge inspection truck.

Provide concrete diaphragms for pre-stressed concrete beams spanning 40 feet or more.

Galvanized steel diaphragms are allowed on prestressed concrete beam bridges, with the following limitations:

- Only structures with substantial clearance (20 ft. or greater) over roadways are acceptable locations for galvanized steel diaphragms.
- Structures over waterways are acceptable locations for galvanized steel diaphragms.
- Concrete diaphragms shall be used over roadways where the beams may be impacted by over-height loads.
- Bolts shall not be exposed on the exterior face of concrete beams.
- Only Steel X-type cross frames shall be used.

The maximum weight of beam that may be transported on state routes is limited. Shipping weights larger than150,000 pounds, including the truck, shall be submitted to GDOT to determine if a special hauling route is necessary for delivery.

Bolted field splices are allowed for use on steel girders providing the following requirements are met:

- Bolts shall be placed in double shear.
- Splice plates and bolts shall not encroach on the slab design thickness
- Direct Tension Indicators (DTIs) shall not be used.

DB Team shall install locked entryways on all hatches and points of access.

Cover plates are prohibited for use on new steel beams. When widening existing bridges “in kind” that have cover plated members, use a larger member size that will not require plates. For strengthening and rehabilitation work of existing steel beams determine if there are other methods available to provide the required capacity before submitting to GDOT for acceptance. If accepted, cover plates shall be checked for fatigue in accordance with GDOT and AASHTO LRFD guidelines.

Fracture critical members (FCMs) shall not be used for bridges. Steel box girder straddle bent caps are considered to be FCMs due to their non-redundant properties and will not be permitted on the project. Post-tensioned concrete straddle bent caps are not considered FCMs as the posttensioning strands provide internal redundancy. Bridges designed using rolled steel beams, steel plate girders, pre-stressed concrete I-beams and pre-stressed concrete bulb-tee beams as the main members of the bridge superstructure shall be designed and constructed using a minimum of four (4) beams in the bridge typical section. Joints for all grade separation structures shall be sealed.

Box girder superstructures and substructures shall be accessible without impacting traffic below. DB Team shall make box girders and box beam pier caps with a minimum inside depth of six (6) feet to facilitate interior inspection. DB Team shall include a minimum access opening of 3’-0” diameter into all cells, and between cells, of the girders or pier caps to allow free flow of air during inspections. The outside access opening cover shall hinge to the inside of the box girder and pier caps. An electrical system (110V and 220V) shall be incorporated inside the box girder and pier caps with

lighting and power outlets. DB Team shall install air-tight sealed and locked entryways on all hatches and points of access.

13.2.3 Bridge/ Retaining Wall Foundations

The foundation design shall be based on the recommendations of the accepted Bridge or Wall Foundation Investigation Report and the requirements of Section 8 of Volumes 2 and 3. The Contractor shall perform LRFD bridge and wall foundation investigations for all proposed walls and bridges to be constructed on this Project. Except as provided in Section 8 of Volume 2, any previously accepted reports provided by GDOT are for informational purposes only and GDOT does not certify or warranty the information contained in these reports.

For bridges crossing streams or any other body of water: All foundations shall be evaluated and designed to account for the effects of scour. The design shall include the recommendations of the hydraulics and hydrological report to ensure that footings, piles and caissons/ drilled shafts have the proper embedment below the scour line. Protection of slopes with rip rap shall be in accordance with the recommendations of the hydraulics report.

Foundations shall be designed based on LRFD methodology in accordance with Section 8, GDOT and AASHTO guidelines.

13.2.4 Bridge Railing and Barriers

All barrier systems used on the Project shall meet current crash test and other safety requirements as determined by GDOT. All testing and associated costs for non-standard railings shall be the sole responsibility of DB Team and shall be accomplished through a third party acceptable to GDOT.

13.2.5 Retaining Walls

To the extent possible, DB Team shall design and construct to provide embankments without the use of retaining walls. Where earthen embankments are not feasible, DB Team may use retaining walls.

Metal walls, including bin walls and sheet pile walls, recycled material walls and timber walls shall not be permitted.

If pipe culverts are to extend through the retaining walls or noise barriers the pipe shall be installed so that no expansion joints are located within two pipe diameters from centerline of the pipe or under the wall.

No weep holes through the face of retaining walls shall be permitted, except at the base of the walls.

Modular walls employing interlocking blocks shall not be used where surcharge loads from vehicular traffic are present or as part of bridge abutments.

Mechanically Stabilized Earth (MSE) walls shall not be used to support spread footing abutment foundations on the Project.

13.2.6 Aesthetics

DB Team shall design retaining/structural walls to be similar in color, texture, and style that are consistent with other Elements present in the entire Project such as structures, landscaping, and other highway components.

All embellishments for structural Elements shall be coordinated with the DB Team's structural design team to facilitate constructability and maintain safety requirements. Structural element surfaces exposed to public view shall meet the requirements of the Standard Specifications, Construction of Transportation Systems.

No exposed conduits shall be allowed on bents, columns, bridge beams, overhangs or any other visible surface. The DB Team is to minimize drain pipe exposure to public view.

All bridge substructure columns shall be consistent in form and texture, with similar shapes and details used for all bridges on the project.

Bridges with all or part of the structure visible to traffic either passing beneath the bridge or travelling in lanes adjacent to the bridge, shall use constant depth of fascia beams along the entire length of the bridge to maintain a uniform appearance. An exception to this requirement is at locations where the fascia beam material changes from steel to concrete or vice versa. In this case cheek walls may be used at piers to mask transitions where superstructure depth change is required due to the change in material type.

Bridges that are not visible to traffic either passing beneath the bridge or travelling in lanes located adjacent to the elevated portions of the bridge are not required to have all fascia beams constant throughout the bridge length

13.2.7 Drainage Structures

In developing the design of drainage structures, DB Team shall account for maximum anticipated loadings. "Step down" design shall not be utilized for any part of the proposed drainage system.

Energy dissipaters, if used, shall be considered as structural Elements.

13.2.8 Sign, Illumination, and Traffic Signal Supports

DB Team shall be responsible for the design of overhead sign supports to accommodate a full load of signs for the Project. DB Team shall use sign bridge (Type I) or butterfly (Type III), or combination (Type IV) in accordance with GDOT's related standard specifications, policies, guidelines, and Volume 3 Manuals. Type II sign (cantilever type) structures are not permitted.

Support columns for Type I, III, and IV overhead sign structures or traffic signal mast arms shall not be mounted to any portion of the new or existing bridge superstructure. Where an overhead sign structure or mast arm is required to be placed on a bridge it shall be mounted either on the bridge substructure directly, such as the concrete pier cap, or on a pier and foundation separate from the bridge entirely. For a sign structure that is mounted to the pier cap, the bridge pier must be designed for the additional loads and forces the sign structure will induce on the bridge substructure, including but not limited to: dead load, ice load, wind load and vibration. Loads shall be developed in accordance with the current edition of the AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals. For a sign structure or mast arm mounted to a foundation that is independent from the bridge, the design of the sign foundation shall be in accordance with the current edition of the AASHTO Standard Specification for Structural Supports for Highway Signs, Luminaires and Traffic Signals."

13.2.9 Widening/Modification of Existing Structure

Structures to be widened are listed in Section 13.2.9 of Volume 2. DB Team is required to rehabilitate/strengthen/replace that portion of the existing structure as recommended by the most recent bridge condition and bridge deck condition surveys, and the portions of the existing structure that must be strengthened or upgraded as a direct result of the widening. Examples include strengthening of an existing fascia beam or improving the strength of a pier cap to meet the increased load capacity requirements due to the new load distribution on those elements. Any portion of the existing bridges damaged as a result of the widening operations will be replaced or repaired at the DB Team's cost, as determined by GDOT. The DB Team shall provide any studies, calculations, and plans that are required for GDOT review and acceptance prior to any bridge widening or modification.

13.2.10 Toll Gantry Structures

Requirements for toll gantries are provided in Section 21 and its subsections.

13.3 Construction Requirements

13.3.1 Concrete Finishes

Concrete finishes shall comply with the performance requirements as stated in Section 15 or as otherwise allowable in the DB Documents.

13.3.2 Structure Metals

Welding shall be in accordance with the requirements of the *American National Standards Institute* (ANSI)/*AASHTO/ American Welders Association (AWS) D1.5M/D1.5:2010 Bridge Welding Code*.

13.4 Final Bridge Inspection Prior to Service Commencement

GDOT shall inspect all bridges constructed prior to Service Commencement. GDOT will perform the initial bridge ratings as part of this Work. Bridges cannot be opened to traffic until bridges have been accepted by GDOT.

DB Team shall provide to GDOT an overall schedule of completion for each structure in accordance with the Construction Phasing Plan and coordinate an inspection schedule with GDOT that will meet the Service Commencement Date.

13.5 Deliverables

Preliminary Bridge Plan Layouts

Prepare Preliminary Bridge Plan Layouts in accordance with the GDOT Bridge Detailing Manual guidelines.

A. Additionally provide a typical section which indicates the following information:

    1. The center to center spacing of girders
    2. Overhang or distance from outside edge of slab to center of exterior girder: This distance (overhang) shall meet AASHTO requirements, but shall not exceed 4'-7½" or one half of the adjacent beam spacing, whichever is less. Overhangs shall be a minimum width of one-half top beam flange plus 6 inches.
    3. Cross slope of the deck.
    4. Deck thickness between girders and deck thickness at the centerline of girder measured from the top surface of deck to top of the flange.
    5. Barrier location, height and width.
    6. Gutter to gutter and out-to-out dimensions.
    7. Location of the profile grade.

B. Any drawing and/or narrative description of the construction scheme necessary to indicate how the bridge is to be built, including traffic handling sketches and temporary barrier locations.

Preliminary Wall Plans

Prepare Preliminary Wall Plans in accordance with the GDOT Bridge Detailing Manual guidelines. The acceptable wall types are as follows:

1. MSE (Mechanically Stabilized Earth)
2. Alternate wall types, including cast-in place walls, are permissible. Soil-nail type walls and modular block type walls will not be permitted directly adjacent to areas subject to roadway surcharge loads, including but not limited to bridge end bents.

A. Any construction sequence requirements that will affect the construction of the walls and which will have to be accounted for in the preparation of retaining wall plans.

Bridge and Wall Construction Plans

After the preliminary bridge and wall layouts have been accepted by GDOT, the DB Team shall prepare final plans. The DB Team shall arrange a meeting with GDOT to specifically discuss how the plans will be prepared prior to beginning plan preparation on the Project.

The DB Team shall provide Submittals as required in Section 23, Volume 3 Manuals (Technical Documents), and in the DB Documents in addition to the following:

- Hardscape Enhancement Plan for bridges, retaining walls, noise barriers, sign structures, and other structure components as required in Section 15.

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16 SIGNING, PAVEMENT MARKING, SIGNALIZATION

16.1 General Requirements

This Section 16 includes requirements with which DB Team shall design and construct all signing, delineation, pavement markings, and signalization for the Project. The DB Team shall design the Project in conformance with GDOT policies, guidelines, and Volume 3 Manuals (Technical Documents).

16.2 Administrative Requirements

16.2.1 Meetings

DB Team shall arrange and coordinate all meetings with local agencies that will assume responsibility for maintaining and operating traffic control devices including but not limited to traffic signals. DB Team shall provide GDOT with notification of such meetings a minimum of ten (10) business days prior to the start of the meeting. GDOT, in its discretion, may attend such meetings.

DB Team shall arrange and coordinate all meetings with requesting agencies or individuals regarding special signs.

16.3 Design Requirements

16.3.1 Final Plans

DB Team shall submit the Preliminary and Final Plans for the signing, delineation, pavement marking, and signalization for GDOT review and acceptance. In the event that additional property is needed to place any required signs, the DB Team shall acquire the additional property as Additional Properties. Any Additional Property acquisitions not provided in the approved Environmental Document must be approved by GDOT.

16.3.2 Permanent Signing and Delineation

DB Team shall design and install all signs as shown on the Final Plans. Signs for the Project shall include all new signs required for the Project as well as replacing existing signs and structures that are impacted by the Project. DB Team's design shall include the locations of proposed ground-mounted and overhead signs as well as existing signs that are to remain, graphic representation of all signs, proposed pavement markings, delineation placement, guide sign and special sign details, clearance diagrams and structural and foundation requirements. Signs shall be located in a manner that avoids conflicts with other signs, vegetation, CMS, lighting, and structures. DB Team shall ensure that signs are clearly visible, provide clear direction and information for users, and comply with all applicable MUTCD requirements. The DB Team shall ensure that

placement, construction and installation activities of signage shall avoid impacts to all environmentally sensitive resources.

DB Team shall ensure that all sign placements meet or exceed appropriate sight line requirements and standards. All sign structures and overhead signs shall be designed and located to ensure that they and any existing GDOT overhead signs have minimum sight distance of 1000 feet and shall meet any other MUTCD or *GDOT Signing and Marking Design Guidelines*, allowable sign spacing requirements.

DB Team shall review with GDOT all requests for new signs, including traffic generators, or modifications of existing sign legend. Such requests are subject to GDOT's acceptance.

Any existing signs and sign structures impacted by the project or in conflict with proposed signs shall be replaced with new signs and structures that comply with the MUTCD, GDOT's related standard specifications, policies, guidelines, and Volume 3 Manuals Technical Documents), or as otherwise approved by GDOT.

All overhead signs on a single structure shall be the same height with the exception of general information or regulatory signs such as Rest Area or an R554-X.

Arrow per lane guide signs shall be required for all multi-lane exits at major interchanges that have an optional exit lane that also carries the through route and for all splits that include an option lane.

Sign attachments to any existing roadway bridge shall not be permitted. Support columns for Type I, III, and IV overhead sign structures shall not be mounted to any portion of the new or existing bridge superstructure. When an overhead sign structure is required to be placed on a bridge it shall be mounted either on the bridge substructure directly, such as the concrete pier cap, or on a pier and foundation separate from the bridge entirely. For a sign structure that is mounted to the pier cap, the bridge pier must be designed for the additional loads and forces the sign structure will induce on the bridge substructure, including but not limited to: dead load, ice load, wind load and vibration. Loads shall be developed in accordance with AASHTO Standard Specifications for Highway Bridges, 17th Edition and the current edition of the AASHTO Standard Specification for Structural Supports for Highway Signs, Luminaires and Traffic Signals. For a sign structure mounted to a foundation that is independent from the bridge, the design of the sign foundation shall be in accordance with the current edition of the AASHTO Standard Specification for Structural Supports for Highway Signs, Luminaires and Traffic Signals.

Supplemental signs on interstates shall comply with MUTCD. Guidance on destinations is provided in GDOT's Policies and Procedures 6775-9.

16.3.3 Project Signs – Outside the Existing and Required ROW

For signs located outside the Existing ROW, Required ROW and Additional Properties but within a public ROW, DB Team shall install the signs in existing rights-of-way controlled by local or other Governmental Entities. DB Team shall coordinate with applicable Governmental Entities for the design and installation of such signs. This shall include any trailblazing signing required for the project.

16.3.4 Reserved

16.3.5 Specific Service Signs

In addition to the warning, regulatory, and guide signs within the Premises, GDOT or Governmental Entities may allow specific service signs, such as LOGO signs to be installed. DB Team shall coordinate and cooperate with GDOT or any third party performing such work. The DB Team shall remove and remount any LOGO sign that conflicts with a proposed sign installation and also allow for proper sign spacing in accordance with GDOT Signing and Marking Design Guidelines and the MUTCD.

The DB Team shall contact Georgia Logos, LLC 770-447-6399 prior to removing or resetting LOGO signs. Cost for removing, resetting, and maintaining LOGO signs as necessary shall be included in the overall bid price. Existing LOGO signs shall be maintained during construction on a moveable structure. Any LOGO signs damaged during construction shall be replaced at no additional cost.

16.3.6 Sign Support Structures

DB Team shall determine foundation types and design sign foundations based upon geotechnical surveys/tests. Sign support structures shall be designed in accordance with GDOT Signing and Marking Design Guidelines and AASHTO's *Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals*. The DB Team design of the structural support for overhead signs shall be provided to GDOT and must provide for the maximum allowable sign area that can be placed onto the structure support as defined in *GDOT Signing and Marking Design Guidelines*. Type III structures shall be designed to accommodate at least five hundred fifty (550) square feet of sign area. A GDOT structural support number shall be placed on the outside vertical support of structure. Requirements for the alphanumeric code are specified in the GDOT *Signing and Marking Design Guidelines*. DB Team shall use sign bridge (Type I) or butterfly (Type III) overhead sign structures in accordance with GDOT's related standard specifications, policies, guidelines, and Volume 3 Manuals. Designs for sign supports shall also comply with requirements in Sections 13 (Structures). Type II cantilever signs shall not be used for sign installations. The DB Team assumes all responsibility for ensuring that any existing overhead sign structure that has a change in design sign area and/or load due to new or revised signs must meet all structural requirements in GDOT Signing and Marking Design Guidelines and

AASHTO's Standard Specifications for Structural Supports for Highways Signs, Luminaires, and Traffic Signals.

16.3.7 Permanent Pavement Marking

DB Team shall ensure that the design and installation of all pavement markings including Raised Pavement Markings (RPM) comply with the MUTCD, GDOT Signing and Marking Design Guidelines, GDOT standards and details and in accordance with GDOT specifications. Ensure use of contrasting black border around pavement markings on bridges and all other concrete surfaces. RPM's shall be installed where new pavement marking is provided.

16.3.8 Permanent Signalization

16.3.8.1 Traffic Signal Requirements

DB Team shall design and install fully-actuated permanent traffic signals at all GDOT-permitted intersections within Project limits. In addition, DB Team shall modify, as appropriate, any existing traffic signals impacted by the Project. DB Team shall coordinate with GDOT and the applicable local Governmental Entities to define appropriate traffic signal design requirements, local agency oversight of DB Team's Work, and final acceptance of traffic signals. DB Team shall coordinate with local Governmental Entities for synchronization of traffic signal networks.

DB Team shall provide interconnection systems between new or modified signals and any other signal system within the Project Site as required by GDOT or the applicable local Governmental Entity. Connection of the completed intersection to the Governmental Entity's communications network shall be coordinated with the Governmental Entity. DB Team shall ensure continuous communication with the traffic signal system within the Project Site, and shall provide all communication hardware/equipment for GDOT or the applicable local Governmental Entity to communicate with the signal systems within the Project Site.

DB Team shall provide both pedestrian and vehicle detectors at all traffic signals per GDOT or applicable local Governmental Entity's (maintaining agency) requirements within the Project Site.

DB Team shall coordinate with TMC and the District Traffic Operations to ensure that all signalized locations are permitted prior to submission of Final Plans.

16.3.8.2 Traffic Signal Timing Plans

DB Team shall coordinate and implement signal timing plans that optimize traffic flows and provide signal coordination with adjacent intersections and arterials for all existing and new traffic signals, modified signals, and interconnected signals. DB Team shall obtain acceptance with GDOT or applicable local Governmental Entity for the initial signal timings and updating signal timing as necessary to maintain optimized flow.

16.3.8.3 Traffic Signal Permit

As part of the design process, DB Team shall be responsible for obtaining necessary traffic signal permit or permit revisions by following applicable GDOT's or local Governmental Entities' signal permit process, prior to any new signal installation or existing signal modification.

16.3.8.4 Traffic Signal Support Structures

DB Team shall coordinate with GDOT and the local Governmental Agencies to determine the type of traffic signal support structures. DB Team shall obtain the maintaining agency's acceptance of traffic signal support structures to be used on new signal installations.

16.4 Construction Requirements

16.4.1 Permanent Signing and Delineation

DB Team shall use established industry and utility safety practices when erecting or removing signs located near any overhead or underground utilities, and shall consult with the appropriate Utility Owner(s) prior to beginning such work.

DB Team shall maintain all applicable advance guide signs and/or exit direction signs in place at all times and shall not obstruct the view of the signs to the motorist. DB Team shall replace any other removed signs before the end of the work day.

Signing reflectivity shall conform to the current edition of the MUTCD and *GDOT Signing and Marking Design Guidelines*.

16.4.2 Permanent Pavement Marking

DB Team shall install required full pattern pavement markings on all pavement courses before any roadway is opened to traffic in conformance with the MUTCD, GDOT Signing and Marking Design Guidelines and GDOT's standards, details and specifications. RPM's shall be placed and/or maintained when the roadway is open to traffic.

16.4.3 Permanent Signalization

DB Team shall coordinate with the Utility Owner(s) and ensure necessary power service is initiated and maintained for permanent signal systems.

16.5 Deliverables

All deliverables shall be presented to GDOT in both hardcopy, and electronic form compatible with GDOT software as required by the Volume 3 Manuals (Technical Documents) and the DB Documents.

16.5.1 Permanent Signing and Delineation

Before placing any permanent signs, delineation, third-party signs, or non-standard sign structures, DB Team shall provide GDOT a layout indicating the proposed location of such items. Overhead sign structures will be reviewed and accepted by GDOT Bridge Department.

16.5.2 Permanent Pavement Marking

Before placing any permanent pavement markings, DB Team shall provide GDOT a layout indicating the proposed location of such items.

16.5.3 Permanent Signalization

DB Team shall, after implementing accepted timing plans, provide GDOT and Governmental Entities (maintaining agencies) responsible for operation and maintenance of the traffic signal system legible written documentation of all intersection characteristics, timing plan parameters and installation information necessary for GDOT or the Governmental Entity to incorporate the completed signal installation into the central intersection management software being used.

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18 TRAFFIC CONTROL

18.1 General Requirements

DB Team shall design and construct the Project, in conformance with the requirements stated in this Section 18, to provide for the safe and efficient movement of people, goods, and services, through and around the Project while minimizing negative impacts to Users, residents, and businesses.

The design of the Project shall be in accordance with Volume 3 Manuals (Technical Documents) and the DB Documents.

18.2 Administrative Requirements

18.2.1 Transportation Management Plan

DB Team shall prepare and implement a Transportation Management Plan (TMP), if required, that meets the requirements of the FHWA Work Zone Mobility and Safety Program which can be found at:

http://www.ops.fhwa.dot.gov/wz/resources/final_rule/tmp_examples/tmp_dev_resources.htm

At a minimum, the TMP shall include descriptions of the qualifications and duties of the traffic engineering manager, traffic control coordinator, Worksite Traffic Control Supervisor (WUCS), and other personnel with traffic control responsibilities. Additional requirements of the TMP are below:

- Procedures to identify and incorporate the needs of transit operators, Utility Owners, Governmental Entities, local governmental agencies, Emergency Service providers, school districts, business owners, and other related Users, Customer Groups or entities in the Project corridor and surrounding affected areas.
- Procedures for obtaining acceptance of detours, road and lane closures and other traffic pattern modifications from applicable Governmental Entities, and implementing and maintaining those modifications. At a minimum these procedures must include:
    - DB Team shall notify the traveling public by placing CMS's a minimum of seven (7) Days in advance of actual roadway closure or major traffic modifications. Where available and when possible, the DB Team shall coordinate and utilize Overhead Changeable Message Signs on the regional ITS system.
    - DB Team shall utilize off-duty uniformed police officers for mainline lane closures.
- Procedures for signing and marking transitions during construction from one stage to the next and from interim to permanent signing and marking.

- Procedures for maintenance and replacement of traffic control devices, including pavement markings and traffic barriers, if used.
- Procedures to regularly evaluate and modify, if necessary, traffic signal timings, and the procedures for the development, GDOT acceptance (and local Governmental Entity acceptance, if necessary), implementation, testing, and maintenance of all affected signals.
- Procedures to coordinate with the appropriate Governmental Entities operating signal networks along the Project or Project detour routes to ensure temporary system compatibility, establish responsibilities for temporary signal installation, maintenance, operation and removal, and coordinate traffic signal timing with local signal networks.
- Procedures and process for the safe ingress and egress of construction vehicles in the work zone
- Provisions to provide continuous access to established truck routes and Hazardous Material (HazMat) routes, and to provide suitable detour routes, including obtaining any acceptances required by the appropriate governmental entities for these uses.
- Procedures to modify plans as needed to adapt to current Project circumstances.
- If required, procedures to communicate TMP information to DB Team's public information personnel and notify the public of maintenance of traffic issues in conjunction with the requirements of Section 3, of Volume 2,
- Descriptions of contact methods, personnel available, and response times for any deficiencies or Emergency conditions requiring attention during off-hours.

The TMP shall be submitted within one hundred twenty (120) Days from NTP 1 and must be accepted by GDOT prior to NTP 3.

The safe, convenient passage of the traveling public shall be ensured by the DB Team at all times. The DB Team shall prepare contingency traffic control plans for use in relieving travel delays. If in GDOT's sole opinion, sustained traffic control placement creates unnecessary hindrance to the travelling public, the DB Team shall implement contingency plans that will alleviate traffic congestion immediately or cease traffic interruptions immediately upon notification from GDOT.

18.3 Design Requirements

18.3.1 Traffic Control Plans

DB Team shall use the procedures in the TMP (if applicable) and the guidelines of the MUTCD, AASHTO's *Roadside Design Guide,* as well as comply with GDOT *Special Provision 150 – Traffic Control* to develop detailed traffic control plans which provide for all Construction Phases and construction stages, as well as all required traffic shifts procedures.

DB Team shall produce a traffic control plan for every Construction Phase that impacts traffic. Each traffic control plan shall be submitted to GDOT for review a minimum of

fourteen (14) Days prior to implementation. The traffic control plan shall include details for all detours, traffic control devices, striping, and signage applicable to each Construction Phase. Information included in the traffic control plans shall be of sufficient detail to allow verification of design criteria and safety requirements, including typical sections, alignment, striping layout, drop off conditions, and temporary drainage. The traffic control plans shall clearly designate all temporary reductions in speed limits. Changes to posted speed limits will not be allowed unless specific prior acceptance is granted by GDOT.

Opposing traffic on a divided roadway shall be separated with appropriate traffic control devices in accordance with AASHTO's *Roadside Design Guide*, the MUTCD based on the roadway Design Speed, and Volume 3 Manuals (Technical Documents).

DB Team shall maintain signing continuity on all active roadways within or intersecting the Project at all times.

Throughout the Term, DB Team shall ensure all streets and intersections remain open to traffic to the greatest extent possible by constructing the Work in stages. DB Team shall maintain access to all adjacent streets and shall provide for ingress and egress to public and private properties at all times during the term of the Project.

DB Team shall prepare public information notices, if required, in coordination with Section 3, in advance of the implementation of any lane closures or traffic switches. These notices shall be referred to as Traffic Advisories.

18.3.1.1 Roadway Guidelines

DB Team shall produce traffic control plans for periods of construction in accordance with Volume 3 Manuals (Technical Provisions), Special Provision Section 150, and the DB Documents document.

18.3.1.1.1 *Design Parameters for Traffic Control*

Design Vehicle: Turning movements shall accommodate a design vehicle specified by the *GDOT Design Policy Manual* for specific road classifications. Turning movements on all other local streets and driveways shall, at a minimum, provide similar characteristics as existing Geometry.

Work Zone Speed Limits: The work zone speed limits on Interstate and State Highways shall be in conformance with *Special Provision 150*.

Number of Lanes: Except as allowed by Section 18 of Volume 2, the minimum number of lanes to be maintained shall be the number of lanes currently available on each controlled access facility, lane closures on other roadways may be considered so long as all traffic patterns and accesses are not reduced and are maintained.

Lane Widths: During construction, the minimum lane width for main lanes, frontage roads and major crossing streets is eleven (11) feet. For minor crossing streets, GDOT may, in its sole discretion, allow ten (10') lanes in limited circumstances during construction for short distances after reviewing the DB Team's traffic control plan.

18.3.1.1.2 *Allowable Shoulder/Lane/Roadway Closures and Traffic Stage Changes*

DB Team shall provide GDOT and appropriate Customer Groups a minimum of two weeks advance notice for lane/shoulder closures and/or traffic stage changes planned to be in effect longer than twenty four (24) hours, and a minimum of twenty four (24) hours advance notice for lane closures that are planned to be in effect less than twenty four (24) hours, using all appropriate tools as needed. The DB Team shall coordinate the closure restrictions with GDOT on all lane/shoulder closures (or an event that results in lane closures) into GDOTs ITS web based information tool.

Closures must be coordinated with adjacent projects to ensure the safe convenient passage of the traveling public. During construction of the Project, GDOT will facilitate coordination with all local entities for Traffic Control.

Lane and Shoulder Closure During Design-Build Period

DB Team may reduce the number of travel lanes in accordance with the restrictions in Section 18 of Volume 2.

The DB Team shall not install lane and shoulder closures, perform flagging, or move equipment on the travel way of any roads or streets from the Wednesday before Thanksgiving Day to the first Business day after New Year's Eve yearly between the hours of 5:00 a.m. to 11:00 p.m. Monday thru Friday and between the hours of 7:00 a.m. to 11:00 p.m. Saturday and Sunday.

Additional lanes may be closed during off peak or nighttime hours upon receipt of written permission from GDOT. Consideration will be given to traffic data collected in VPH/lane formatting during allowed closure periods that clearly demonstrates industry accepted traffic flow ratios can be maintained.

Full Roadway Closure

DB Team will not be permitted for any full (all lanes and shoulders) roadway closures unless accepted by GDOT and Governmental Entities having jurisdiction of roadways affected by the closure.

GDOT will have the right to lengthen, shorten, or otherwise modify the foregoing restrictions as actual traffic conditions may warrant. The detour route for these full roadway closures shall be limited to usage of the on and off ramps at the mainline interchange locations. DB Team shall utilize off-duty uniformed police officers for all detours.

Any complete roadway closure will require a Traffic Control Plan to be submitted and accepted by GDOT and Governmental Entities having jurisdiction of roadways affected by the closure. Availability of frontage roads, ramp locations and detour distances shall be considered in the design.

Holiday Restrictions

No work that restricts or interferes with traffic shall be allowed from 12:00 noon on the day preceding to 10:00 pm on the day after the following holiday schedule. GDOT has the right to lengthen, shorten, or otherwise modify these restrictions as actual traffic conditions may warrant.

- Memorial Day Weekend (Friday through Monday)
- Independence Day (July 3 through noon on July 5th)
- Labor Day Weekend (Friday through Monday)
- Thanksgiving Holiday (Wednesday through Sunday)
- Christmas Holiday (December 23 through 26)
- New Year Holiday (December 31 through January 1)

18.4 Construction Requirements

Construction shall be in accordance with GDOT accepted DB Team's TMP, as well as applicable provisions of the MUTCD and GDOT Special Provision section 150 – Traffic Control.

18.4.1 DB Team Responsibility

If at any time GDOT determines DB Team's traffic control operations do not meet the intent of the TMP (if applicable) or any specific traffic control plan, DB Team shall immediately revise or discontinue such operations to correct the deficient conditions.

DB Team shall provide GDOT the names of the Certified Workzone Traffic Control Supervisor and support personnel, and the phone number(s) where they can be reached twenty four (24) hours per day, seven (7) days per week.

Workzone Law Enforcement consists of utilizing uniformed police officer(s) equipped with a marked patrol vehicle and blue flashing lights to enforce traffic laws in construction workzones and the administration of this service. Workzone Law Enforcement shall be deployed during lane closures, traffic pacing, and at all other times the DB Team determines necessary for the safety of everyone within the project limits. The DB Team shall be responsible for coordinating and scheduling the utilization of the Workzone Law Enforcement.

The DB Team shall provide a daily work record compiled on a form provided by the Department, signed by the police officer(s) and signed by the Contractor's Worksite Traffic Control Supervisor attesting that the police officer(s) was utilized during the time

recorded. No separate payment will be made for Workzone Law Enforcement. Payment for Workzone law enforcement shall be under the Construction Complete Lump Sum Item. Payment shall be full compensation for reimbursing the law enforcement agency, and for all other costs incurred by the Contractor in coordinating, scheduling, and administering the item Workzone Law Enforcement.

18.4.2 Access

Existing bicycle and pedestrian access and mobility shall be maintained across all cross streets. Access to existing transit stop locations shall be maintained during construction or reasonable alternative locations shall be provided, if applicable.

18.4.3 Detours

DB Team shall maintain all detours. A pavement transition, required in accordance with AASHTO's *Roadside Design Guide*, GDOT guidelines and the MUTCD based on the roadway Design Speed of the section shall be provided at all detour interfaces.

19 MAINTENANCE DURING THE DESIGN-BUILD PERIOD

19.1 General Requirements

The DB Team shall maintain the Project from NTP 3 through the remainder of the Design-Build Period in a manner that provides a safe and reliable transportation system. Upon NTP 3, the DB Team shall be fully responsible for maintenance as required by GDOT Standard Specification 105.14.

19.1.1 Reserved

19.1.2 GDOT Obligation to Repair

In the period between the Effective Date and NTP 3, GDOT/Appropriate Local Agency will reasonably perform the type of routine maintenance of each Element Category of the existing improvement which normally occurs in GDOT's highway maintenance and repair program. GDOT/Appropriate Local Agency is not obligated to extend the Residual Life of any Element through reconstruction, rehabilitation, restoration, renewal, or replacement.

19.2 Construction Maintenance Limits Plan

The DB Team shall specify the physical boundaries of the DB Team's maintenance responsibilities for the Construction Work during the Design–Build Period. The Construction Maintenance Limits Plan can be provided as a drawing or set of drawings that highlight the exact area of the proposed construction and maintenance responsibilities within the ROW, as well as the limits of any Additional Properties to be acquired for the Project. This drawing will serve as the boundary for Construction Work and will also be used as the exact limits for DB Team to maintain any Element required to construct the Project beginning at the time of NTP3 through Final Acceptance. The DB Team shall be responsible for all maintenance activities, in accordance with the GDOT Standard Specifications, Construction of Transportation Systems, within these limits that is impacted due to the construction activity of the DB Team, including but not limited to:

- Pavement maintenance including pothole patching, concrete patching, striping, etc.;
- Existing ITS system and Drainage System continuity;
- Landscaping repair;
- Utility Adjustments; and
- Existing lighting system.

The DB Team shall provide the final Construction Maintenance Limits Plan no later than one hundred and fifty (150) Days from NTP1 or prior to the start of a construction phase (see Section 23). The drawing should show hash marks or a method to clearly depict the area of the Construction Maintenance Limits. The DB Team is required to depict in

the Construction Maintenance Limits Plan any and all proposed staging and lay down areas. All staging and lay down areas must have prior approval by GDOT.

Notwithstanding GDOT's approval of the Construction Maintenance Limits, The DB Team shall be responsible for any and all maintenance for any area(s) encroached on by the DB Team during the performance of the Construction Work.

The DB Team shall provide Construction Maintenance Limits phasing plan per the approved Construction Phasing Plan required in Section 23.

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23 SUBMITTALS

23.1 General

The DB Team shall provide Project Submittals, in both electronic and hard copy format, as required to obtain any acceptance or final Release for Construction (as applicable) by GDOT and to demonstrate compliance with the DB Documents, Government Acceptances, and regulations. Volume 2 (Technical Provisions) provides a list of some of the required submittals. The Volume 3 Manuals (Technical Documents) or other requirements in the DB Documents may require additional Submittals. This list is intended to be a guide for coordinating reviews and facilitating the Work.

The DB Team may design and construct the Project in multiple phases. A Construction Phase is a portion (segment) of the overall Project. If the Project will be designed and constructed in multiple phases, then the DB Team shall provide a Construction Phasing Plan and Submittals Schedule per construction phase within thirty (30) days from NTP 1. The Construction Phasing Plan shall provide logical termini for each proposed segment or phase of the Work and must consider any phasing of required acceptances. For a given Construction Phase, DB Team shall be allowed to either submit a complete set of drawings or make a series of Staged Design Submittals (components). The timing and content of Staged Design Submittals must be logical and shall include or be preceded by related items (e.g., bridge submittals must include or be preceded by related highway geometry; a bridge and its related retaining walls must be submitted together; etc.). The Submittals Schedule shall identify all proposed Staged Design Submittals and what components will be included in each. The DB Team must obtain GDOT acceptance of the Construction Phasing Plan and the Submittals Schedule prior to providing any design submittals for GDOT review. In addition, a "Design Submittal Guide / Index" showing a proposed index of plan sheets for each Construction Phase must be submitted and accepted prior to providing any design submittal. Once accepted, this Design Submittal Guide / Index shall be updated and provided with each subsequent design submittal. File naming of each plan sheet in a submittal shall correspond to the final index name of the plans for ease of reference to create the final set of drawings. The Design Submittal Guide / Index shall also include all reports, specifications, studies, calculations, etc.

Sufficient review and revision time shall be provided in the schedule and shall account for possible multiple re-submittals to secure a final Released for Construction prior to starting construction on any particular Element of the Work. Construction shall not proceed on any of the work until the design submittal has been reviewed, accepted and Released for Construction as described in Section 23.3 below.

23.1.1 Detailed Estimate of Quantities

The DB Team shall provide a detailed estimate with the RFC Plans which identifies GDOT Pay Items, pay item descriptions, units and estimated quantities for the Project.

The DB Team shall provide quantities in the Final Bridge Plans in accordance with the GDOT Bridge and Structures Design Manual.

23.2 Design Submittals and Progress of Design Work

Each required Submittal shall be delivered to GDOT in conformance of the review times provided in Volume 2, Section 23.2. The times provided in Volume 2, Section 23.2 are specifically for the review period required for GDOT to comment and GDOT to subsequently accept if all requirements of the DB Documents are met. Accuracy, completeness, and time spent to address GDOT comments are the responsibility of the DB Team. Notwithstanding the foregoing, notices sent after 12:00 p.m. Eastern Standard or Daylight Time (as applicable), including all notices, correspondence or communications (including e-mail and facsimile) received after 12:00 p.m. shall be deemed received on the first business day following delivery (that is, in order for a fax to be deemed received on the same day, at least the first page of the fax must have been received before 12:00 p.m.).

No fabrication, casting or construction will occur until all related design review and shop drawing review comments are resolved and the corresponding drawings and specifications have been accepted by GDOT and stamped “Released for Construction”. All design submittals shall be complete along with all the supporting information necessary for review. The work must represent logical work activities and must show impacts on subsequent work on this Project. Any modification to the component construction due to subsequent design changes as a result of design development is solely at the DB Team’s risk.

23.2.1 Construction Phasing and Additional Submittal Requirements

The DB Team is responsible for obtaining any Government Approvals or other approvals required to allow for implementation and construction of the phasing plan. The DB Team shall not begin any work including any land disturbing activities for the Construction Phase contemplated for construction until the following have been completed or accepted by GDOT and/or Governmental Entity as required:

- All required Management Plans are accepted and NTP 3 is issued (Construction Phase or entire Project)
- Acceptance of the Construction Phasing Plan
- Acceptance of the Construction Maintenance Limits Plan for the proposed Construction Phase of work
- Acceptance of the Submittals Schedule (Design Submittal Guide)
- Acceptance of the Project Baseline Schedule
- Acceptance of the Conceptual Layout Plan for the entire Project by GDOT and FHWA (if applicable)
- Acceptance of the Drainage Report (for the contemplated Construction Phase)
- Acceptance and subsequent Release for Construction of the Final Plans for the construction contemplated (Construction Phase or entire Project).

- Utility Certification or recertification by GDOT, as applicable (Construction Phase or entire Project)
- Environmental recertification by GDOT
- Acceptance of any required Design Variances or Design Exceptions (Construction Phase or entire Project)
- Approved Permits (including but not limited to the USACE Section 404 permit and traffic signal permits)
- Acceptance of Erosion Sedimentation and Pollution Control Plans (Construction Phase or entire Project)
- Executed NPDES Notice of Intent (NOI) (Construction Phase or entire Project)
- Acceptance of Construction Quality Management Plan
- Acceptance of Traffic Control Plan (Construction Phase or entire Project)
- Acceptance of Traffic Management Plan
- Utility Agreements, Utility Encroachment Permits, Utility Relocation Plans, Utility Retentions (as required) and/or Contractor Certification of "No-Conflict"
- Provide the existing GIS data and existing mapping as required in Section 12.3.2.1
- ROW certification by GDOT

Staged Design Submittals

Once the Conceptual Layout Plan for the entire Project has been accepted by GDOT the DB Team shall be allowed to submit Staged Design Submittals (components) instead of a completed set of drawings for an entire accepted Construction Phase. A Staged Design Submittal is a submittal that consists of a portion or portions of the Work within the limits of an accepted Construction Phase. For example, a Staged Design submittal for a bridge might be categorized as foundations, substructures, abutments or complete continuous units of superstructure. Staged Design Submittals for other components of the Project might include grading, drainage, signing & pavement marking and erosion control. If the DB Team chooses to provide Staged Design Submittals, the list of Staged Design Submittals shall be identified as part of the proposed Construction Submittals Schedule.

Changes to Accepted and Released for Construction Submittals

After GDOT has accepted the Final Plans and has authorized them as Released for Construction then the DB Team shall submit to GDOT a request for any subsequent plan/design changes and include necessary documentation which supports the reasoning behind the change request. GDOT must accept the requested change with written notice prior to its implementation as a plan revision and subsequent construction activity.

Presentation Requirements

The DB Team shall provide all plan submittals in accordance with the *Plan Development Process (PDP)*, *Electronic Data Guidelines (EDG)* and the *Plan Presentation Guide (PPG)* Manuals for GDOT reviews.

The Plans shall be fully dimensioned in English units; all elevations necessary for construction shall be shown similar to the Department's normal practice. All plans are to be prepared on the scales according to GDOT's Plan Presentation Guide (PPG).

Each location shall include details for all civil elements and calculations within proximity of the site so that these locations can be reviewed holistically and connections with communication and electrical networks are clearly understood.

Construction Plans Organization and Sheet Index: Construction plans shall be assembled according to the GDOT Plan Presentation Guide (PPG).

Computations: All design computations and computer printouts shall be neatly recorded on 8 ½" by 11", fully titled, numbered, indexed, dated and signed by the designer/Project manager and checker. The computer files and two copies of the computations fully checked and appropriately bound, shall be submitted to GDOT with the plans. A complete tabulation of the drainage analysis along with the calculations used to determine the size of drainage structures shall be submitted to GDOT.

Submittal Formats: Each design submittal shall, in addition to electronic delivery in .pdf format on the web-based document management system, consist of ten (10) sets of scalable 11"x 17" or 12" x 18", six (6) full size 24" x 36" design drawings and six (6) sets of calculations and a DVD/CD of the submittal including all InRoads, MicroStation V8 format files. For all Final Plan submittals (plans, calculations, specifications, reports, etc.), each document shall be sealed by a qualified Registered Professional Engineer in the State of Georgia. In addition to written design review comments (if any), design drawings may be returned to the DB Team with any remarks indicated. After a design drawing submittal is "Released for Construction", the DB Team shall, in addition to posting the complete electronic files on the web-based document management system, furnish GDOT with one (1) full size 24" x 36" set and ten (10) sets of 11"x 17" or 12" x 18", corrected design drawings as well a DVD/CD containing the design drawings in In-Roads, Micro-station V8 format. After all individual Staged Design Submittals have been accepted for a particular Construction Phased Plan; a final complete set of plans for the Construction Phase will be compiled and provided to GDOT as the Released for Construction set.

Additional Specifications: In addition to the design drawings that include Georgia standards and details, the DB Team shall prepare and furnish to GDOT, specifications for construction work included in the plans which are not covered by the GDOT's *Standard Specifications*, the *Supplemental Specifications and/or the Special Provisions* as required in Volume 3 Manuals (Technical Documents).

Any submittal(s) received by GDOT after 12 PM (noon) shall be considered as being received the following business day.

23.3 Submittals Process

Review of the Design Documents by GDOT may be limited to the basic requirements of the DB Documents, relating to design compliance and material type(s) and may not include detailed review or checking of design of components and related details or the accuracy with which such designs are depicted on the design drawings.

Review and/or acceptance of any Design Documents shall not relieve the DB Team of responsibility under the Contract including the overall correctness of Design Documents including engineering mathematical computations. All Design Documents, including but not limited to plans, specifications, reports, calculations, shop drawings (where public safety is affected) and Permit documents shall be submitted to GDOT. GDOT will be responsible for distributing the submittals to all required parties of the contract.

All Submittals shall include a cover letter describing the submittal, review period and the due date for any GDOT response.

All Submittals shall include the DB Team's QC/QA certification statement (in addition to the design consultant's QC/QA certification statement for all design related submittals). GDOT will reject any submittal if the QC/QA certification statement is not included. Each submittal shall also provide a certification statement that the submittal complies with all terms and conditions of the DB Agreement signed by the EOR.

Required Participants of the Process

GDOT, except as otherwise required in the DB Documents, will be primarily responsible for verifying that the accepted Design Quality Management Process as required in Section 2 has been followed, verifying that the submittal meets all contract requirements, ensuring that all necessary Governmental Approvals have been obtained by the DB Team, and performing any review(s) as provided for in Volume 2, Section 23.

DB Team is responsible to provide all required Submittals in compliance with the DB Documents and in compliance of the accepted Submittals Schedule. The DB Team must further provide a certification that the submittal meets the terms of the contract and has been independently reviewed in accordance with the accepted Design Quality Management Plan (see Section 2) with the each submittal.

Process

- The DB Team shall provide independent review for all submittals in compliance with the accepted Design Quality Management Plan as specified in Section 2.3.15.

- DB Team provides the submittal to GDOT via web based application and required hard copies in accordance with the submittal schedule. Submittals shall be categorized into "Discipline Groups" as follows:
    - Right of Way, Railroad and Utilities (RRU Group)
    - Roadway, Drainage and Maintenance of Traffic (RDMOT Group)
    - Bridge, Structures, Retaining Walls and Aesthetics (BSRA Group)
    - ITS, Traffic (includes signing, pavement marking, signals and lighting) (ITSTT)
    - All types (ALL Group)
    - Other (OTH)
- GDOT logs in the submittal and distributes to the required review participants.
- Review period begins (the following business day for any submittals received after 12p.m.) per the period as prescribed in Volume 2, Section 23.2, except where there is a maximum number of concurrent submittals of a particular type specifically noted in Volume 2, Section 23.2; in such cases and where the maximum is exceeded, the review period will begin when prior submittal reviews are completed so that the maximum number in concurrent review is not exceeded. For the general case where there is not a maximum number of concurrent submittals specifically noted in Volume 2, Section 23.2, an additional seven (7) days will be added to the prescribed review period whenever there are more than five (5) concurrent submittals in review in the subject document's particular Discipline Group. Further, an additional seven (7) days will be added for each additional increment of five (5) concurrent submittals in review in a Discipline Group. For example, if there are between six (6) and ten (10) submittals in concurrent review in a Discipline Group, then an additional seven (7) days are added; and if there are between eleven (11) and fifteen (15) submittals in concurrent review in a Discipline Group, then an additional fourteen (14) days are added, etc. For purposes of calculating the number of submittals, the accepted submittal schedule will generally be used as a guide except that complementary documents, for example bridge plans and bridge calculations, will be considered a single submittal. Documents that fully integrate multiple disciplines in the presentation, for example roadway and drainage plans, together with the respective calculations would be counted as one submittal. For example documents or packages that include multiple bridges or toll gantries, each individual bridge or toll gantry will be counted as a separate submittal.
- Once a review is complete the drawings and or Submittal will be designated by GDOT as either:
    - Accepted
    - Accepted with Comments
    - Rejected

  The terms "Accepted" and "Accepted with Comments" shall mean that the design process may proceed and is not a notice that construction may begin.
- If "Accepted" or "Accepted with Comments", the GDOT Representative will deliver the comments and, if necessary, return the drawings and/or Submittal via web based application and/or hard copy to the DB Team. For final Submittals,

after updating the documents to resolve all comments (as applicable) and receiving written notice from GDOT that the drawings and/or Submittal are "Released for Construction" pursuant to Exhibit 1 of the DB Agreement, the DB Team shall stamp the accepted set "Released for Construction" and distribute copies as required within three (3) business days.

- If "Rejected", the GDOT Representative shall deliver the rejected drawings and/or Submittal via web based application and/or hard copy to the DB Team. The DB Team shall address the specific comments and resubmit. The resubmittal become a new Submittal and shall follow the same time period as provided in Volume 2, Section 23.2.

23.4 Shop Drawings and Temporary Works Submittals

23.4.1 General

Shop drawings include all working, shop, and erection drawings, associated trade literature, calculations, schedules, manuals, and similar documents submitted by the DB Team to define some portion of the project work. The type of work includes both permanent and temporary works as appropriate to the project. Permanent works include all the permanent structures and parts thereof required of the completed DB Documents. Temporary works include any temporary construction work necessary for the construction of the permanent works. This includes falsework, formwork, scaffolding, shoring, temporary earthworks, sheeting, cofferdams, special erection equipment, and the like. Falsework includes any temporary construction work used to support the permanent structure until it becomes self-supporting. Falsework includes steel or timber beams, girders, columns, piles and foundations, and any proprietary equipment including modular shoring frames, post shores, and adjustable horizontal shoring. Formwork includes any structure or mold used to retain plastic or fluid concrete in its designated shape until it hardens. Formwork comprises common materials such as wood or metal sheets, battens, soldiers and walers, ties, proprietary forming systems such as stay-in-place metal forms, and proprietary supporting bolts, hangers and brackets. Formwork may be either permanent formwork requiring a shop drawing submittal such as stay-in-place metal or concrete forms, or may be temporary formwork which requires certification by the Specialty Engineer for construction affecting public safety and for major and unusual structures. Scaffolding is an elevated work platform used to support workmen, materials and equipment, but not intended to support the structure. Shoring is a component of falsework such as horizontal, vertical or inclined support members. In this Section, this term is interchangeable with falsework.

Construction affecting public safety is defined as construction that may jeopardize public safety such as structures spanning functioning vehicular roadways, pedestrian walkways, railroads, navigation channels of navigable waterways and walls or other structure foundations located in embankments immediately adjacent to functioning roadways. It does not apply to those areas of the site under the DB Team's control and outside the limits of, or influence of, normal public access.

For the purpose of shop drawing review and processing as described in Section 23.4, the term "Specialty Engineer" will apply to the initiator or producer of shop drawings regardless of whether or not that party is normally the EOR; and the term "Engineer of Record" will apply to the shop drawing checker and certifier regardless of whether or not that party is normally the EOR or the Specialty Engineer.

23.4.2 Work Items Requiring Shop Drawings

In general, GDOT requires shop drawings for items of work not fully detailed in the plans which require additional drawings and coordination prior to constructing the item, including but not limited to:

- Bridge components not fully detailed in the plans, i.e. segments, steel girder details, post-tensioning details, handrails, etc.
- Retaining wall systems
- Precast Box Culverts
- Non-standard Drainage structures, attenuators, and other nonstructural items
- Building structures
- Drainage structures, attenuators, and other nonstructural items
- Design and structural details furnished by the DB Team in compliance with the Contract
- Temporary Works affecting public safety

23.4.3 Schedule of Submittals

Shop drawings shall be included on the submittal schedule described in Section 23.1. For each planned shop drawing submittal, define the type and approximate number of drawings or other documents that are included and the planned submittal date, considering the processing requirements herein. Coordinate subsequent submittals with Project Schedule to allow sufficient time for review and re-submittal as necessary.

23.4.4 Style, Numbering, and Material of Submittals

23.4.4.1 Drawings

The DB Team shall submit the shop drawings electronically in .pdf format on the web-based project management program. In addition to the electronic delivery, the DB Team shall furnish four sets of shop drawings to GDOT for review. Consecutively number each sheet in the submittal series, and indicate the total number in the series (i.e., 1 of 12, 2 of 12, . . ., 12 of 12). Include on each sheet the following items as a minimum requirement: Bridge Number(s), drawing title and number, a title block showing the names of the fabricator or producer and the DB Team for which the work is being done, the initials of the person(s) responsible for the drawing, the date on which the drawing was prepared, the location of the item(s) within the project, the DB Team's approval stamp with date and initials, and, when applicable, the signature and seal of the Specialty Engineer. A re-submittal will be requested when any of the required information is not included.

23.4.4.2 Other Documents

In addition to electronic delivery in .pdf format on the web-based project management program, the DB Team shall provide four sets of original documents or clearly legible photographic or xerographic copies of documents other than drawings, such as trade literature, catalogue information, calculations, and manuals. Clearly label and number

each sheet in the submittal to indicate the total number of sheets in the series (i.e., 1 of 12, 2 of 12, . . . 12 of 12). Provide an additional three sets of documentation for items involved with precast pre-stressed components. Provide an additional two sets of documentation for items involving structural steel components. Bind and submit all documents with a table of contents cover sheet. List on the cover sheet the total number of pages and appendices, and include a title referencing the submittal item(s), the name of the firm and person(s) responsible for the preparation of the document, the DB Team's approval stamp with date and initials, and, when applicable, the signature and seal of the Specialty Engineer. Submit appropriately prepared and checked calculations and manuals that clearly outline the design criteria. Include on the internal sheets the initials of the person(s) responsible for preparing and checking the document. Clearly label trade literature and catalogue information on the front cover with the title, date and name of the firm and person(s) responsible for that document.

23.4.5 Submittals and Copies

23.4.5.1 General

Shop drawings are not required for Qualified Products accepted by GDOT and included on the Qualified Product List as specified in Volume 3 Manuals. For non-Qualified Product, the DB Team will submit shop drawings to GDOT after the EOR has reviewed and accepted for conformance with the DB Documents and compliance to the design intent. Upon completion of GDOT's review, GDOT's red ink review stamp will signify an officially reviewed shop drawing and will state either "Released for Construction" or "Released for Construction as Noted".

23.4.5.2 DB Team-Originated Design

Submit shop drawings and applicable calculations to the EOR for review. Ensure that each sheet of the shop drawings and the cover sheet of the calculations are signed and sealed by the Specialty Engineer.

23.4.5.3 Temporary Works

For construction affecting public safety, submit to the EOR shop drawings and the applicable calculations for the design of special erection equipment, false-work, scaffolding, etc. Ensure that each sheet of the shop drawings and the cover sheet of the applicable calculations is signed and sealed by the Specialty Engineer.

23.4.5.4 Formwork and Scaffolding

The DB Team is solely responsible for the safe installation and use of all formwork and scaffolding. GDOT does not require any formwork or scaffolding submittals unless such work would be classified as construction affecting public safety.

23.4.5.5 Other Miscellaneous Design and Structural Details Furnished by the DB Team in Compliance with the Contract

Submit, to the EOR, shop drawings and the applicable calculations. Ensure that each sheet of the shop drawings and the cover sheet of the applicable calculations is signed and sealed by the Specialty Engineer.

23.4.6 Processing of Shop Drawings

23.4.6.1 DB Team Responsibility for Accuracy and Coordination of Shop Drawings

Coordinate, schedule, and control all submittals, with a regard for the required priority, including those of the various subcontractors, suppliers, and GDOTs, to provide for an orderly and balanced distribution of the work. Coordinate, review, date, stamp, accept and sign all shop drawings prepared by the DB Team, Contractors, or DB Team-Related Entities (subcontractor, fabricator, supplier, etc.) prior to submitting them to GDOT for review. Submittal of the drawings confirms verification of the work requirements, units of measurement, field measurements, construction criteria, sequence of assembly and erection, access and clearances, catalog numbers, and other similar data. Indicate on each series of drawings the specification section and page or drawing number of the Released for Construction plans to which the submission applies. Indicate on the shop drawings all changes from the Released for Construction drawings and itemize all changes in the letter of transmittal. Likewise, whenever a submittal conforms to the Released for Construction plans, clearly state so in the transmittal letter. Schedule the submission of shop drawings to allow a GDOT review period as specified in the DB Documents. The review period commences upon GDOT's receipt of the valid submittal or re-submittal and terminates upon the transmittal of the submittal back to the DB Team. The DB Team is discouraged from transmitting voluminous submittals of shop drawings at one time. For submittals transmitted in this manner, allow for additional review time. Only shop drawings distributed by GDOT with the "red ink" stamps are valid and all work that the DB Team performs in advance of GDOT's release of shop drawings will be at the DB Team's risk.

23.4.6.2 Scope of Review by the Engineer of Record

The EOR's review of the shop drawings is for conformity to the requirements of the DB Documents and to the intent of the design. The EOR's review of shop drawings, which includes means, methods, techniques, sequences, and construction procedures, is limited to the effects on the permanent works. The EOR's review of submittals, which includes means, methods, techniques, sequences, and construction procedures, does not include an in-depth check for the ability to perform the Work in a safe or efficient manner.

23.4.6.3 Special Review by the Engineer of Record of Shop Drawings for Construction Affecting Public Safety

For construction affecting public safety, the EOR will make an independent design review of all relevant shop drawings and similar documents. The DB Team shall not

proceed with construction of the permanent works until receiving the EOR's approval. Send a copy of the approval letter to GDOT. The review of these shop drawings is for overall structural adequacy of the item to support the imposed loads and does not include a check for economy, efficiency or ease of construction.

23.4.7 Other Requirements for Shop Drawings for Bridges

23.4.7.1 Shop Drawings for Structural Steel and Miscellaneous Metals

Furnish shop drawings for structural steel and miscellaneous metals. Shop drawings shall consist of working, shop, and erection drawings, welding procedures, and other working plans showing details, dimensions, sizes of material, and other information necessary for the complete fabrication and erection of the metal work.

23.4.7.2 Shop Drawings for Concrete Structures

Furnish shop drawings for concrete components that are not cast-in-place and are not otherwise exempted from submittal requirements. Also, furnish shop drawings for all details that are required for the effective prosecution of the concrete work and are not included in the DB Documents such as: special erection equipment, masonry layout diagrams, and diagrams for bending reinforcing steel, in addition to any details required for concrete components for the permanent work.

23.4.7.3 Special Construction Submittals

In addition to any other requirements, within 60 days from the issuance of the notice to proceed, the DB Team shall submit information to GDOT outlining the plan for integration into the overall approach to the project. Where applicable to the project, include, but do not limit this information to:

- The overall construction program for the duration of the DB Agreement. Clearly show the milestone dates. (For example, the need to open a structure by a certain time for traffic operations.)
- The overall construction sequence. The order in which individual structures are to be built, the sequence in which individual spans of girders or cantilevers are erected, and the sequence in which spans are to be made continuous. Erection plans and sequence drawings shall be provided for all bridge construction work to be performed on or over railroad ROW as defined in Section 14 of Volume 3.
- The general location of any physical obstacles to construction that might impose restraints or otherwise affect the construction, and an outline of how to deal with such obstacles while building the structure(s). (For example, obstacles might include road, rail and waterway clearances, temporary diversions, transmission lines, utilities, property, and the DB Team's own temporary works, such as haul roads, cofferdams, plant clearances and the like.)

- The approximate location of any special lifting equipment in relation to the structure, including clearances required for the operation of the equipment. (For example, crane positions, operating radii and the like.)
- The approximate location of any temporary falsework, and the conceptual outline of any special erection equipment. Provide the precise locations and details of attachments, fixing devices, loads, etc. in later detailed submittals.
- An outline of the handling, transportation, and storage of fabricated components, such as girders or concrete segments. Provide the precise details in later detailed submittals.
- Any other information pertinent to the proposed scheme or intended approach.
- Clearly and concisely present the above information on as few drawings as possible in order to provide an overall, integrated summary of the intended approach to the project. GDOT will use these drawings for information, review planning, and to assess the DB Team's approach in relation to the intent of the original design. The delivery to and receipt by GDOT does not constitute any GDOT acceptance or approval of the proposals shown thereon. Include the details of such proposals on subsequent detailed shop drawing submittals. Submit timely revisions and re-submittals for all variations from these overall scheme proposals.

23.4.7.4 Shop Drawings Requiring Railroad Coordination

GDOT acceptance of shop drawings and submittals involving railroad coordination and review does not constitute final acceptance to begin work on these items. Refer to the requirements of Section 14 for coordination and duration of shop drawing reviews for construction work being performed on or over the ROW of the railroad. Direct coordination between the RUU Group and the railroad will be necessary to ensure that all necessary approvals from the railroad are in place prior to beginning of construction activities in these areas.

23.4.8 Modifications on Construction

Where GDOT allows the DB Team to make modifications to the permanent works for the purposes of expediting the DB Team's chosen construction methods, the DB Team shall submit proposals to the EOR for review and approval prior to modifying the works. Submit proposals for minor modifications under the shop drawing process. Indicate on all drawings the change(s) from the DB Documents and itemize all Change Requests in the letter of transmittal. GDOT will require additional submittals for major modifications. Minor modifications are those items that, in the opinion of GDOT, do not significantly affect the quantity of measured work, or the integrity or maintainability of the structure or its components. (For example, adjusting concrete dimensions, substituting steel plate sizes, changing reinforcing bar size and spacing, etc., all within the acceptable limits of the design.) Major modifications are any modifications that, in the opinion of GDOT, significantly affect the quantity of measured work, or the integrity or maintainability of the structure or it's components. (For example, substituting alternative beam sizes and spacing's, changing material strength or type, and the like.) Provide signed and sealed

revised sheets to GDOT for any required revisions to the Released for Construction plans prior to submitting shop drawings. GDOT's decision on the delineation between a minor and a major modification and the disposition of a proposal is final.

23.5 As-Built Plans

The EOR shall perform a site visit at a minimum of ninety (90) days following NTP 3, and subsequent site visits at a minimum of ninety (90) days thereafter up to Substantial Completion. One of the EOR site visits shall take place at the midpoint of the bridge construction. The purpose of the site visits is for the EOR to visually inspect the progression of the Work for compliance to the RFC Documents. The EOR shall prepare a site observation compliance report to document elements of the work that are compliant with the RFC Documents, and elements of the work that are not compliant with the RFC Documents. If elements of the work are not compliant with the RFC Documents, the EOR shall coordinate with the DB Team to determine corrective action and describe the corrective action in the site observation compliance report. The site observation compliance report shall be submitted within seven (7) days of the site visit, and shall be stamped by the EOR.

Upon completion of the Construction Work, a complete set of As-Built Plans (Record Drawings), organized by Construction Phase shall be provided to GDOT as a condition to Final Acceptance in accordance with Volume 2 Section 23 and in the following formats:

- A CD-ROMs or DVDs containing:
  - All electronic design files, electronic calculations, etc.
  - Full-size 24" x 36" .pdf containing, of each plan sheet and the entire plan set
  - Hard copy of the design databook, and drainage calculations
- Full-size 24" x 36" set of bond prints
- Half-size 11" x 17" or 12" x 18" set of bond prints

These as-built Record Drawings shall not be field sketches or redlines, but shall be CAD generated drawings which compile all field changes, redlines, plan revisions, and all non-conforming work into a single "strike-through" format set of plans. Where appropriate, new drawings may be inserted in to the plans to depict portions of the as-built work.

The DB Team shall be responsible for all production and delivery of materials needed for GDOT review.

All files are to conform to the criteria for the design platform of choice (CAiCE or InRoads) found in the GDOT's Electronic Data Guidelines (EDG), most current version, found at:

http://www.dot.ga.gov/PS/DesignManuals .

For toll projects:

The toll and toll-related ITS elements of the as-built Record Drawings shall be provided as a separate sub-set by Construction Phase and include but are not limited to, toll locations, toll-related ITS locations, communication hub, fiber back bone, ground boxes, and toll / toll-related ITS lateral locations which shall be provided to SRTA at turnover. These toll and toll-related ITS element as-built Record Drawings shall also be provided to GDOT as a condition of Final Acceptance. Draft as-built plans shall be provided to GDOT and SRTA for each Toll Location and toll-related ITS location as part of the site turnover process. In addition to the deliverables above, the as-built submittals for toll, toll-related ITS and GDOT ITS shall include an Excel spreadsheet with separate columns for latitude, longitude, station, roadway, device type, manufacturer and model number. Furthermore, linear features shall include a latitude and longitude value for the beginning and end points. Latitude and longitude values shall be accurate to two (2) feet and be in degrees, minutes, and seconds format. GPS points for polygon features (e.g. communication hub can be taken from an edge of the feature).

Georgia Department of Transportation

Programmatic Technical Provisions

For

Design-Build Agreement

P.I. No. 0015524

FY 17 Bridge Replacement Project

VOLUME 3 ATTACHMENTS

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FY 17 Bridge Replacement Project

Attachment 4-1

SUPPLEMENTAL SPECIFICATION 107 - LEGAL REGULATIONS AND RESPONSIBILITY TO THE PUBLIC

First Use: June 2016

DEPARTMENT OF

TRANSPORTATION STATE OF

GEORGIA

SUPPLEMENTAL SPECIFICATION

Section 107 – Legal Regulations and Responsibility to the Public

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Delete Section 107 and Substitute the following:

107.01 Laws to Be Observed

The Contractor shall keep fully informed of all Federal and State laws, all local laws, ordinances, codes, and regulations and all orders and decrees of bodies or tribunals having any jurisdiction or authority, which in any manner affect those engaged or employed on The Work, or which in any way affect the conduct of The Work. The Contractor shall at all times observe and comply with all such laws, ordinances, codes, regulations, orders, decrees, and permits; and shall protect and indemnify the Department and its representatives against any claim or liability arising from or based on the violation of any such law, ordinance, code, regulation, order, decrees, and permits, whether by himself, his employees, subcontractors, or agents.

107.02 Permits and Licenses

The Contractor shall procure all permits and licenses, pay all charges, taxes, and fees, and give all notices necessary and incidental to the due and lawful prosecution of The Work.

107.03 Patented Devices

If the Contractor employs any design, device, material, or process covered by letters of patent or copyright, he shall provide for such use by suitable legal agreement with the patentee or owner. The Contractor and the Surety shall indemnify and save harmless the Department from any and all claims for infringement by reason of the use of any such patented design, device, material, or process, or any trademark or copyright, and shall indemnify the Department for any costs, expenses, and damages which it may be obliged to pay by reason of any infringement, at any time during the prosecution or after the completion of The Work.

107.04 Restoration of Surfaces Opened By Permit

The right to construct or reconstruct any utility service in the highway or street and to grant permits for the same at any time, is expressly reserved by the Department for the proper authorities of the municipality or county in which The Work is done and the Contractor shall not be entitled to any damages either for the digging up of the street or highway, or for any delay occasioned thereby.

Any individual, firm, or corporation wishing to make an opening in the street or highway must secure a permit from the Department. The Contractor shall allow parties bearing such permits, and only those parties, to make openings in the street or highway. When ordered by the Engineer, the Contractor shall make in an acceptable manner all necessary repairs due to such openings and such necessary work will be paid for as Extra Work, or as provided in the Specifications, and will be subject to the same conditions as original work performed.

107.05 Federal-Aid Provisions

When the United States Government pays all or any part of the cost of a project, the Federal laws and the rules and regulations made pursuant to such laws must be observed by the Contractor, and The Work shall be subject to the

inspection of the appropriate Federal agency. Such inspection shall in no sense make the Federal Government a party to this Contract and will in no way interfere with the rights of either party hereunder.

107.06 Sanitary Provisions

The Contractor shall provide and maintain in a neat, sanitary condition such accommodations for the use of his employees as may be necessary to comply with the requirements of the State Department of Health and other authorities having jurisdiction, and shall permit no public nuisance.

107.07 Public Convenience and Safety

The Contractor shall at all times so conduct The Work as to assure the least possible obstruction of traffic. The safety and convenience of the general public and the residents along the highway and the protection of persons and property shall be provided for by the Contractor as specified under Subsection 104.05, Subsection 107.09, Section 150, the Project Plans, and Special Provisions.

Traffic whose origin and destination is within the limits of the Project shall be provided ingress and egress at all times unless otherwise specified in the Plans or Special Provisions. The ingress and egress includes entrance and exit via driveways at the various properties, and access to the intersecting roads and streets. The Contractor shall maintain sufficient personnel and equipment on the project at all times, particularly during inclement weather, to ensure that ingress and egress are provided when and where needed.

Two-way traffic shall be maintained at all times unless otherwise specified or approved. The Contractor shall not stop traffic without permission granted by the Engineer.

All equipment used on The Work shall come equipped with factory-installed mufflers, or manufacturer's recommended equivalent, in good condition. These mufflers shall be maintained in good condition throughout the construction period.

107.08 Railroad-Highway Provisions

All work to be performed by the Contractor on a railroad company's right-of-way or property shall be done in a manner satisfactory to the chief engineer of the railroad company, or his authorized representative, and shall be performed at such times and in such manner as not to unnecessarily interfere with the movement of trains or traffic upon the track of the railroad company. The Contractor shall use all reasonable care and precaution in order to avoid accidents, damage, or unnecessary delay or interference with the railroad company's trains or other property, or property of tenants of railroad company.

The Contractor shall notify the railroad company and obtain its approval before commencing work on the railroad company's right-of-way or property.

The Contractor shall determine what measures are required by the railroad company to protect its operations and right-of-way or property during construction. Such protection may include the use of a flagger or flaggers provided by the railroad company. The Contractor shall be responsible for ensuring that the required protection is provided and shall pay the railroad company directly for any and all such services which may be required to accomplish the construction unless otherwise specified.

Any temporary grade crossings or other means needed during construction by the Contractor for transporting materials of any nature and/or equipment across the railroad tracks will be the responsibility of the Contractor to handle directly with the railroad company and bear all costs incidental to such crossings including flagging services provided by the railroad company.

A "Special Provisions for the Protection of Railroad Interests" may be included in the proposal to stipulate insurance and other requirements of the railroad company.

107.09 Barricades and Danger, Warning, and Detour Signs

The Contractor shall furnish, install, and maintain all necessary and required barricades, signs, and other traffic control devices in accordance with these Specifications, Project Plans, Special Provisions, and the MUTCD, and take all necessary precautions for the protection of the work and safety of the public.

Unless otherwise specified, all traffic control devices furnished by the Contractor shall remain the property of the Contractor.

107.10 Forest Protection

In carrying out work within or adjacent to State or National Forests, or any other forests, parks, or other public or private lands, the Contractor shall obtain necessary permits and comply with all of the regulations of the appropriate authorities having jurisdiction over such forest, park, or lands. The Contractor shall keep the areas in an orderly condition, dispose of all refuse, obtain permits for the construction and maintenance of all construction camps, stores, warehouses, residences, latrines, cesspools, septic tanks, and other structures in accordance with the requirements of the appropriate authority.

The Contractor shall take all reasonable precautions to prevent and suppress forest fires and shall require his employees and subcontractors, both independently and at the request of forest officials, to do all reasonably within their power to prevent and suppress and to assist in preventing and suppressing forest fires; to notify a forest official at the earliest possible moment of the location and extent of any fire seen by them; and to extinguish or aid in extinguishing nearby fires.

107.11 Construction Over or Adjacent to Navigable Waters

A. Navigation to Be Protected

Since navigable waterways are under the jurisdiction of the United States Coast Guard and/or the United States Army Corps of Engineers, all work done in, over, on or adjacent to such waters shall comply with their requirements. Free navigation shall not be impeded, and navigable depths shall be maintained.

The Contractor shall comply with permits issued by the United States Coast Guard and/or the United States Army Corps of Engineers, and the Contractor shall obtain and comply with other permits in accordance with the requirements of Subsection 107.02

Special Provisions for environmental protection may be included in the proposal to stipulate environmental commitments and other requirements.

B. Obstructions to be Removed

When the construction has progressed enough to permit removal, all falsework, piling and other obstructions shall be removed to the satisfaction of the Federal agency having jurisdiction. In all cases such clearing must be done thoroughly before The Work will be accepted by the Department.

107.12 Use of Explosives

When the use of explosives is necessary for the prosecution of The Work, the Contractor shall exercise the utmost care not to endanger life or property, and shall obey all State, Federal and other Governmental regulations applying to transportation, storage, use, and control of such explosives. The Contractor shall be completely responsible for any and all damage resulting from the transportation, storage, use, and control of explosives in the prosecution of The Work by the Contractor, the Contractor's agents, or employees; and shall hold the Department harmless from all claims of damages resulting in any manner therefrom.

The Contractor shall notify each public utility owner having structures or other installations, above or below ground, near the site of The Work of his intention to use explosives. Such notice shall be given sufficiently in advance to enable the utility owners to take such steps as they may deem necessary to protect their property from injury. Such notice shall not relieve the Contractor of responsibility for all damages resulting from his blasting operations.

All explosives shall be stored securely in compliance with all laws and ordinances, and all such storage places shall be clearly marked DANGEROUS EXPLOSIVES. Explosives and detonators shall be stored in separate storage facilities in separate areas. Where no laws or ordinances apply, locked storage shall be provided satisfactory to the Engineer, never closer than 1,000 ft (300 m) from any travel-road, building, or camping area.

In all cases where the transport, storage, or use of explosives is undertaken, such activities shall be controlled and directed by fully qualified representatives of the Contractor.

Whenever electric detonators are used, all radio transmitters shall be turned off within a radius of 500 ft (150 m). No blasting supplies shall be transported in vehicles with two-way radio unless the transmitter is turned off, or extra shielding precautions are taken. Appropriate signs shall be placed so as to give ample warning to anyone driving a vehicle equipped with two-way radio. Electrical detonators will not be used within 500 ft (150 m) of a railroad.

Submit a blasting plan to the Engineer a minimum of five working days prior to use of explosives that provides details of the proposed blasting plan, including, but not limited to, the type and amount of explosives, the shot sequence, the description of and distance to the closest inhabitable structure, and other information as requested by the Engineer. Submission of blasting plan does not relieve the contractor of the responsibility for the adequate and safe performance of the blasting.

107.13 Protection and Restoration of Property and Landscape

A. General Provisions

The Contractor shall be responsible for the preservation of all public and private property, crops, fish ponds, trees, monuments, highway signs and markers, fences, grassed and sodded areas, etc. along and adjacent to the highway, and shall use every precaution necessary to prevent damage or injury thereto, unless the removal, alteration, or destruction of such property is provided for under the Contract. The Contractor shall use suitable precaution to prevent damage to all underground structures, whether shown on the Plans or not, and shall protect carefully from disturbance or damage, all land monuments and property marks until the Engineer has witnessed or otherwise referenced their location and shall not move them until directed. The Contractor shall not willfully or maliciously injure or destroy trees or shrubs, and he shall not remove or cut them without proper authority.

The Contractor shall be responsible for all sheet piling, shoring, underpinning, etc., as may be required for the protection of abutting property, nearby buildings, streets, and the like.

The Contractor shall be responsible for all damage or injury to property of any character, during the prosecution of The Work, resulting from any act, omission, neglect, or misconduct in his manner or method of executing The Work, or at any time due to defective work or materials, and said responsibility will not be released until the Project shall have been completed and accepted.

When the Contractor’s excavating operations encounter remains of prehistoric people’s dwelling sites or artifacts of historical or archeological significance, the operations shall be temporarily discontinued. The Engineer will contact archeological authorities and the Office of Environmental Services to determine the disposition thereof. When directed by the Engineer, the Contractor shall excavate the site in such a manner as to preserve the artifacts encountered and shall remove them for delivery to the custody of the proper authorities. Such excavation will be considered and paid for as Extra Work.

When the Contractor’s normal operations are delayed by such stoppage or extra work, an appropriate time extension will be granted.

The Contractor shall plan, coordinate, and prosecute the work so that disruption to personal property and business is held to a practical minimum.

No resident or business shall be denied vehicular access to their property for any length of time other than as determined by the Engineer is absolutely necessary. Where two or more existing driveways are present for a business, only one existing driveway shall be closed at any time. All construction areas abutting lawns and yards of residential or commercial property shall be restored promptly. Backfilling of each drainage structure or section of curb and gutter, sidewalk, or driveway shall be accomplished as soon as adequate strength is obtained. Finishing, dressing, and grassing shall be accomplished immediately thereafter as a continuous operation within each area being constructed with emphasis placed on completing each individual yard or business frontage. Care shall be taken to provide positive drainage to avoid ponding or concentration of runoff.

Handwork, including raking and smoothing, shall be required to ensure that roots, sticks, rocks, and other debris are removed in order to provide a neat and pleasing appearance. Grassing, when in season, shall immediately follow in order to establish permanent cover at the earliest date. If grassing is not in season, proper erosion control shall be installed and maintained.

The work described above shall be in addition to that required by Subsection 104.07, “Final Cleaning Up” and Subsection 105.16, “Final Inspection and Acceptance”.

B. Erosion and Siltation Control

The Contractor shall take all necessary measures throughout the life of the Project to control erosion and silting of rivers, streams, and impoundments (lakes, reservoirs, etc.). Construction of drainage facilities as well as performance of other Contract work which will contribute to the control of erosion and siltation shall be carried out in conjunction with clearing and grubbing, and earthwork operations as stipulated in Section 161.

C. Pollution

The Contractor shall exercise every reasonable precaution throughout the life of the Contract to prevent pollution of rivers, streams or impoundments. Pollutants such as chemicals, fuels, lubricants, bitumens, raw sewage and other harmful waste shall not be discharged into or alongside rivers, streams, and impoundments, or into natural or manmade channels leading thereto. The Contractor shall also comply with the applicable regulations of other State and Federal departments and to all governmental statues relating to the prevention and abatement of pollution.

D. Insect Control Regulations

The Plant Pest Control Division of the U.S. Department of Agriculture and the Georgia State Department of Agriculture restrict the movement of certain items from areas infested with Japanese Beetles or Imported Fire Ants so as to prevent the spread of these pests to non-infested areas. Where insect infested areas are shown on the Plans, Contractors will control their operations in such a manner as to comply fully with the requirements of Section 155.

E. Reclamation of Material Pits and Waste Disposal Areas

Whenever or wherever the Contractor obtains material from a source or wastes material on an area other than within the Right-of-Way, regardless of the fashion, manner or circumstances for which the source or area is obtained, it shall be reclaimed in accordance with the requirements of Section 160.

F. Mailboxes

The property owner shall have the responsibility for removing and relocating the mailbox to an area outside construction limits.

The Engineer will mark a point for the relocation of the box. The stake should be set so that the location of the box will be convenient to both the mail carrier and the patron, yet not interfering with the proposed work. It may be necessary for the Engineer to confer with the Post Office serving the area.

The Contractor shall notify each affected owner, in writing, that their mailbox is in conflict with the proposed construction, that they have ten days to relocate the box and that, after the expiration of the 10 days' notice, if the owner has not relocated the box, it shall be removed by the Contractor and laid upon the owner's property, clear of the Right-of-Way.

Any cost to the Contractor for removing the mailboxes as stated above shall be included in the price bid for other items.

G. Failure to Comply

Failure of the Contractor to comply with any of the above provisions or to install erosion prevention items included in the Contract at the time specified, will be evidence of omission and neglect, and the Contractor will be liable for damages as outlined in Subsection 107.13.H below. Furthermore, the Engineer shall withhold payment on all Contract Items until such time as the Contractor complies in full with all of the aforesaid provisions.

H. Payment for Damages

When or where any direct or indirect damage or injury is done to public or private property by or on account of any act, omission, neglect, or misconduct in the execution of the Work, or in consequence of the nonexecution thereof by the Contractor, the Contractor shall restore, at his own expense, such property to a condition similar or equal to that existing before such damage or injury was done, by repairing, rebuilding or otherwise restoring as may be directed, or shall make good such damage or injury in an acceptable manner.

I. Compensation

All costs pertaining to any requirement contained herein shall be included in the overall Bid submitted unless such requirement is designated as a separate Pay Item in the Proposal.

107.14 Load Restrictions

It is hereby agreed between the Department and the Contractor that in the performance of The Work under the Contract, the following load restrictions and stipulations shall be in full force and effect during the life of the Contract:

A. Parties Affected

The load restrictions and stipulations contained herein shall be applicable to the equipment of the Contractor; each agent or subcontractor employed by the Contractor; and each person or persons, firm, partnership, corporation or any combination thereof, hauling materials, supplies or equipment to or on the Project, by or for the Contractor.

B. Within Project Limits

No hauling equipment which is loaded beyond those limits provided by State Law shall be permitted on any portion of the new or existing pavement structure except that such loads will be permitted on nonstabilized bases and subbases prior to placing roadway paving subject to the provisions of Subsection 107.17.

Axle loads and gross weight limits will be evaluated in accordance with current Georgia Law.

All damage caused by any equipment to any permanent installation or portion of The Work shall be promptly repaired by the Contractor at his expense. When it becomes necessary to cross existing pavement with excessive loads, the Contractor shall provide and remove, at his own expense, proper cushioning by means of earth blanket or otherwise as directed.

C. Outside Project Limits

All equipment users included in Subsection 107.14.A, above, operating equipment on roads outside the Project limits shall be governed by the following regulations:

1. No vehicle shall carry any load in excess of that specified by Georgia Law.
2. On County System roads the maximum total gross weight shall not exceed 56,000 lbs. (25,400 kg) unless a vehicle is making a pickup or delivery on such roads.
3. For a specific individual trip the above weight limitations may be exceeded provided a special permit is obtained from the Department for each such movement. A special permit will not relieve the Contractor of liability for damage that may result from such a movement. Refer to O.C.G.A §32-6-26 Weight of Vehicle and Load, SB54 (2011) for compliance with weight limitations and exceptions.
4. Authorized personnel of the Department of Public Safety shall be permitted to weigh each truck hauling material to the Project whenever the Department so desires. The owner of each truck shall instruct his operators to cooperate with and assist the truck weighers in every way possible.
5. A Certified Public Weigher operating under the provisions of Standard Operating Procedure 15 shall not dispatch any vehicle loaded with material to be incorporated into the Project when the gross vehicle weight exceeds the limit established by law.
6. Ready Mix Concrete trucks shall comply with load restrictions as specified in Laboratory Standard Operating Procedure 10, “Quality Assurance for Ready-Mixed Concrete Plants in Georgia.”

D. Responsibilities

It will be the responsibility of the Contractor to advise his personnel, and all equipment users included in Subsection 107.14.A, as to the load restrictions and stipulations contained herein.

E. Excess Loads and Violations

If multiple violations assignable to a given Certified Public Weigher are occurring, that Certified Public Weigher may be suspended from weighing materials dispatched to Department of Transportation projects.

107.15 Responsibility for Damage Claims

The Contractor shall indemnify and save harmless the Department, its officers and employees, from all suits, actions, or claims of any character brought because of any injuries or damage received or sustained by any person, persons, or property on account of the operations of the said Contractor; or on account of or in consequence of any neglect in safe-guarding The Work; or through use of unacceptable materials in constructing The Work; or because of any act of omission, neglect or misconduct of said Contractor; or because of any claims or amounts recovered from any infringements of patent, trademark, or copyright; or from any claims or amounts arising or recovered under the Workmen's Compensation Act, or any other law, ordinance, order, or decree; and so much of the money due the said Contractor under and by virtue of his Contract as may be considered necessary by the Department for such purpose may be withheld for the use of the State; or, in case no money is due, his surety may be held until such suit or suits, action or actions, claim or claims for injuries or damages as aforesaid shall have been settled and suitable evidence to that effect furnished to the Department; except that money due the Contractor will not be withheld when the Contractor produces satisfactory evidence that he is adequately protected by public liability and property damage insurance.

107.16 Opening Sections of Project to Traffic

Whenever any bridge or section of roadway is in acceptable condition for travel, the Engineer may direct that it be opened to traffic, whether or not the opening was originally provided for, and such opening shall not be held to be in any way an acceptance of the bridge or roadway, or any part thereof, or as a waiver of any of the provisions of the Contract. Necessary repairs or renewals made on any section of the roadway or bridge thus opened to traffic under instructions from the Engineer, due to defective material or work, or to any cause other than ordinary wear and tear, pending completion and acceptance of the roadway, bridge, or other work, shall be done by the Contractor, without additional compensation. Also, the Contractor shall not receive additional compensation for completing the Work except as specified in Subsection 104.03.

If the Contractor is dilatory in completing shoulders, drainage structures, or other features of work, the Engineer may so notify him in writing and establish therein a reasonable period of time in which the Work should be completed. If the Contractor is dilatory, or fails to make a reasonable effort toward completion in this period of time, the Engineer may then order all or a portion of the Project opened to traffic. On such sections which are so ordered to be opened, the Contractor shall conduct the remainder of his construction operations so as to cause the least obstruction to traffic and shall not receive any added compensation due to the added cost of the Work by reason of opening such section to traffic.

On any section opened to traffic under any of the above conditions, whether stated in the Special Provisions or opened by necessity of Contractor's operations, or unforeseen necessity, any damage to the highway not attributable to traffic which might occur on such section (except slides) shall be repaired by the Contractor at his expense. The removal of slides shall be done by the Contractor on a basis agreed to prior to the removal of such slides.

107.17 Contractor's Responsibility for the Work

From the first day the Contractor begins work, or from the date Contract Time commences, whichever occurs first, until written final acceptance of the project by the Engineer, the Contractor shall have the charge and care thereof and shall take every precaution against injury or damage to any part thereof by the action of the elements or from any other cause, whether arising from the execution or from the non-execution of The Work. The Contractor shall rebuild, repair, restore, and make good all injuries or damages to any portion of The Work occasioned by any of the above causes before final acceptance and shall bear the expense thereof except that the Department may, in its discretion, reimburse the Contractor for the repair of damage to The Work due to unforeseeable causes beyond the control of and without the fault or negligence of the Contractor, including but not restricted to acts of God, of the public enemy or of governmental authorities. The Contractor's responsibility for damages and injuries is defined in Subsection 104.05.A.

In case of suspension of work from any cause whatsoever, the Contractor shall be responsible for the Project and shall take such precautions as may be necessary to prevent damage to the Project, provide for normal drainage and shall erect any necessary temporary structures, signs, or other facilities at his expense.

107.18 Acquisition of Right-of-Way

Rights of Way for the project will be obtained by the Department, in coordination with local governments and others. However, the Contractor's access to the portions of the right-of-way may be restricted. Where such

restrictions are known in advance to the Department they will be listed in the bid proposal. Delays to the progress of the Work may be encountered because of restricted access to portions of the right-of-way. When such delays occur, whether caused by restrictions listed in the bid proposal or restrictions that develop after the Contract is signed, the parties agree in executing the Contract that such delays do not constitute breach of the Contract. Delays in availability of right-of-way beyond those listed in the bid proposal, or that develop after the Contract has been signed, that impact the controlling Item or Items of the Work will not be charged against the Contract Time. Additional compensation for such delays shall not be paid, except as provided in Subsection 105.13, "Claims for Adjustments and Disputes," or Subsection 109.09, "Termination Clause." In the event the Department is unable to acquire right-of-way needed for the project, resulting in delay to or termination of the project, such situation will also be controlled by this Section, and will not constitute a breach of the Contract by the Department.

107.19 Personal Liability of Public Officials

In carrying out any of the provisions of the Contract or in exercising any power or authority granted to the Board, Commissioner, Chief Engineer, their agents and employees, by the Contract, there shall be no liability, either personally or as officials or representatives of the Department, it being understood that in all such matters they act solely as agents and representatives of the Department.

107.20 No Waiver of Legal Rights

Upon completion of The Work, the Department will expeditiously make final inspection and notify the Contractor of acceptance. Such final acceptance, however, shall not preclude or estop the Department from correcting any measurement, estimate, or certificate made before or after completion of The Work, nor shall the Department be precluded or estopped from recovering from the Contractor or his Surety, or both, such over-payment as it may sustain, or by failure on the part of the Contractor to fulfill his obligations under the Contract. A waiver on the part of the Department of any breach of any part of the Contract shall not be held to be a waiver of any other or subsequent breach.

The Contractor, without prejudice to the terms of the Contract, shall be liable to the Department for latent defects, fraud, or such gross mistakes as may amount to fraud, or as regards the Department's rights under any warranty or guaranty.

107.21 General Description

The Contractor shall designate, prior to beginning any work, a Worksite Utility Coordination Supervisor (WUCS) who shall be responsible for initiating and conducting utility coordination meetings and accurately recording and reporting the progress of utility relocations and adjustment work. Also, the WUCS shall prepare an Emergency Response Plan for the purpose of planning, training, and communicating among the agencies responding to the emergency. The WUCS shall be the primary point of contact between all of the Utility companies, the Contractor and the Department. The WUCS shall recommend the rate of reoccurrence for utility coordination meetings and the Engineer will have the final decision on the regularity for utility coordination meetings. In no case will utility coordination meetings occur less than monthly until controlling items of utility relocations and adjustment milestones are completed. The WUCS shall contact each of the utility companies for the purpose of obtaining information including, but not limited to, a Utility Adjustment Schedule for the controlling items of utility relocations and adjustments. The WUCS shall notify the appropriate utility company and/or utility subcontractors and the Department of the status of controlling items of relocations and adjustment milestones as they are completed. The WUCS shall furnish the Engineer, for approval, a Progress Schedule Chart, immediately following the receipt of the Notice to Proceed unless otherwise specified, which includes the utility companies controlling items of work and other information in accordance with Section 108.03 or elsewhere in the Contract documents.

A. Qualifications

The WUCS shall be an employee of the Prime Contractor, shall have at least one year experience directly related to highway and utility construction in a supervisory capacity and have a complete understanding of the Georgia Utilities Protection Center operations, and shall be knowledgeable of the High-voltage Safety Act and shall be trained on the Georgia Utility Facility Protection Act (GUFPA). The Department does not provide any training on GUFPA but will maintain a list of the Georgia Public Service Commission certified training programs developed by other agencies. Currently the following companies offer approved GUFPA training programs:

Associated Damage Consultants
Phone: 706.234.8218 or 706.853.1362
Georgia Utility Contractors Association
Phone: 404.362.9995

Georgia Utilities Protection Center
Phone: 678.291.0631 or 404.375.6209
H B Training & Consulting
Phone: 706.619.1669 or 877.442.4282 (Toll Free)

The Prime Contractor is responsible for obtaining the GUFPA training for their employees.
Questions concerning the Georgia Public Service Commission GUFPA training program should be directed to:

Georgia Public Service Commission
244 Washington St. SW
Atlanta, GA 30334-5701
404.463.9784

B. Ticket Status

During the utility coordination meetings the WUCS shall collect and maintain the Ticket Status information to determine the status of all locate requests within the project limits. This information will be used to assure those planning to use mechanized equipment to excavate or work within the project limits are prepared to begin work when they have reported or estimated beginning work. At points where the Contractor's or utility company's operations are adjacent to or conflict with overhead or underground utility facilities, or are adjacent to other property, damage to which might result in considerable expense, loss, or inconvenience, work shall not commence until all arrangements necessary for the protection thereof have been made.

C. Notice

The names of known utility companies and the location of known utility facilities will be shown on the Plans, or listed in the Subsurface Utility Engineering Investigation if performed or in the Special Provisions; and the WUCS shall give 24-hour notice to such utility companies before commencing work adjacent to said utility facilities which may result in damage thereto. The WUCS shall further notify utility companies of any changes in the Contractor's work schedules affecting required action by the utility company to protect or adjust their facilities. Notice to the utility companies by the Department of the Award of Contract, under Subsection 105.06, shall not be deemed to satisfy the notice required by this paragraph. Furthermore, this 24-hour notice shall not satisfy or fulfill the requirements of the Contractor as stated in Chapter 9 of Title 25 of the Official Code of Georgia Annotated, known as the "Georgia Utility Facility Protection Act".

D. Agenda

The WUCS shall cooperate with the companies of any underground or overhead utility facilities in their removal and relocations or adjustment work in order that these operations may progress in a reasonable manner, that duplication of their removal and relocations or adjustment work may be reduced to a minimum, and services rendered by those parties will not be unnecessarily interrupted. To promote this effort the WUCS shall prepare an agenda for the utility coordination meetings and circulate same in advance of the meeting to encourage input and participation from all of the utility companies. The agenda will be prepared by an examination of the project site and may include photographs of potential/actual utility conflicts.

E. Emergency Response Plan

The WUCS shall prepare an Emergency Utility Response Plan (EURP) within 30 days following the receipt of the Notice to Proceed. The EURP shall indicate the project location (which includes street address and or major intersections / major highway route, if possible with a land mark) that would be reported in case of an emergency, WUCS, Emergency Utility Coordinator (EUC), utility company name, utility company emergency contact information to include but not limited to emergency phone number, response time for emergency, working condition of devices needed to facilitate prompt shut off, and primary point of contact name and phone number for the project.

Emergency Utility Coordinator (EUC) shall be an employee of the Prime Contractor and shall notify the appropriate utility company and/or utility subcontractors in case of an emergency. EURP must include the contact details of the EUC, if WUCS is not the primary emergency utility coordinator for this project.

The plan will also include a means of reporting emergencies and the Utility Emergency Response Information for each company. The WUCS/EUC shall post the EURP in an area readily accessible to the Department and project personnel. Also, WUCS shall distribute the copies of EURP by e-mail and hard copy to GA DOT Area Engineer, GA DOT Construction Project Engineer, Contractor's project manager, superintendent, and all approved sub-contractors whose work can be in conflict with utilities facilities, personnel of the each facility/owner/ operator who has facilities within the project limits and keep a copy in close proximity to active construction.

In the event of interruption to gas, water or other utility services as a result of accidental breakage or as a result of being exposed or unsupported, the WUCS/EUC shall promptly notify the appropriate emergency officials, the Georgia Utilities Protection Center and the appropriate utility facility company or operator, if known. Until such time as the damage has been repaired, no person shall engage in excavating or blasting activities that may cause further damage to the utility facility.

In order to keep up with the latest / most updated EURP contact information (name and phone numbers); WUCS shall include an item in the agenda of Utility Coordination meeting about the updates / changes in the EURP plan.

The Emergency Utility Response Plan and Emergency Utility Response Information template can be found at the State of Georgia, Office of Utilities Webpage.

F. Submission

Provisions for reporting all utility coordination meetings, the progress of utility relocation and adjustment work milestones and ticket status information will be reported on a form developed by the WUCS and will be distributed by the WUCS to all of the utility companies as milestones are met and shall be included as part of the project records. These reports shall be delivered to the Engineer for review, on a monthly basis. The WUCS shall immediately report to the Engineer any delay between the utility relocation and adjustment work, the existing Utility Adjustment Schedule, or the proposed Utility Adjustment Schedule so that these differences can be reconciled.

G. Delays

Delays and interruptions to the controlling Item or Items of The Work caused by the adjustment or repair of water, gas, or other utility appurtenances and property may be considered for an extension of Contract Time as provided in Subsection 108.07.E unless such delays are due to the negligence of the Contractor.

H. Facilities Supported on Bridges

If the utility facilities are to be supported on bridges, the following provisions shall apply:

1. The Plans will show the location of the facility and the auxiliary items necessary to support the facility.
2. The Contractor constructing the bridge shall install anchor bolts, thimbles, inserts, or other auxiliary items attached to the bridge as a part of the support for the utility facility. The Utility Company shall furnish these auxiliary items, unless the Contract indicates these items are to be furnished by the Contractor as a part of the bridge construction.
3. The Utility or its subcontractor constructing the utility facility shall install hanger rods, pipe rollers, and other attachments necessary for the support of the utility facility as indicated on the Plans. The Utility Company shall furnish these attachments at no cost to the Department or the prime contractor unless otherwise specified. This work shall also include:

a. Caulking the openings around the utility where it passes through endwalls to prevent the passage of undesirable materials.

b. Painting the exposed portions of utility supports unless such supports are corrosion resistant. Painting shall be done in accordance with the applicable portions of Section 535, unless otherwise specified.

4. The sequence of bridge construction work may be set forth in the Plans and/or the Special Provisions and will show at what stage of the Work a utility company will be allowed to make the utility installation. Further, all or any portion of The Work under Subsection 107.21.H.3 may be included in the bridge Contract by the Plans and/or the Special Provisions.

5. Any damage to the bridge structure caused by the utility installation shall be repaired to the satisfaction of the Engineer at the expense of the Utility or its subcontractor installing the utility facility.

I. Clearances
The Plans provide for at least minimum clearance of utilities as required by the National Electrical Safety Code, U.S. Department of Commerce, and National Bureau of Standards. Any additional clearance the Contractor may desire or require in performing The Work shall be arranged by the Contractor with the utility company. The Department will pay no extra compensation for such additional clearances.

J. Utility Relocation Progress Schedule
The purpose of the Utility Adjustment Schedule is to provide the Contractor with the pertinent information, including any utility staging required, dependent activities, or joint-use coordination that is required for the creation of a feasible progress schedule. A suitable Utility Adjustment Schedule form is available from the Department for the WUCS to circulate to utility companies for any proposed project construction staging or should a utility company not duly file a Utility Adjustment Schedule to the Department during the preconstruction phase of the project. The WUCS shall submit a Utility Relocation Progress Schedule showing together the Progress Schedule Chart referenced in Section 108.03 and the proposed Utility Adjustment Schedules from all utility companies to the Engineer for review and approval. Copies of existing Utility Adjustment Schedules with utility companies having facilities on this project will be made available at the Georgia Department of Transportation, Office of Construction Bidding Administration, located at One Georgia Center, 600 West Peachtree Street, NW, Atlanta, GA 30308, for examination by the Contractor. The Utility Adjustment Schedules are available on-line at: www.dot.ga.gov/partnersmart/contractors/bidding letting/bidx/default.aspx

K. Compensation
There will be no separate measurement or payment for this Work. The cost associated with this Work shall be included in the overall Bid submitted.

107.22 Hazardous and/or Toxic Waste

When the Contractor's operations encounter or expose any abnormal condition which may indicate the presence of a hazardous and/or toxic waste, such operations shall be discontinued in the vicinity of the abnormal condition and the Engineer shall be notified immediately. The presence of barrels, discolored earth, metal, wood, or visible fumes, abnormal odors, excessively hot earth, smoke, or anything else which appears abnormal may be indicators of hazardous and/or toxic wastes and shall be treated with extraordinary caution as they are evidence of abnormal conditions.

The Contractor's operations shall not resume until so directed by the Engineer.

Disposition of the hazardous and/or toxic waste will be made in accordance with the requirements and regulations of the Department of Human Resources and the Department of Natural Resources. Where the Contractor performs work necessary to dispose of hazardous and/or toxic waste, payment will be made at the unit prices for pay items included in the contract which are applicable to such work or, where the contract does not include such pay items, payment will be as provided in Subsection 109.05, "Extra Work."

107.23 Environmental Considerations

A. Construction

Erosion control measures shall be installed, to the greatest practical extent, prior to clearing and grubbing. Particular care shall be exercised along stream buffers, wetlands, open waters and other sensitive areas to ensure that these areas are not adversely affected.

Construction equipment shall not cross streams, rivers, or other waterways except at temporary stream crossing structures shown on the plans or as allowed by permit.

Construction activities within wetland areas are prohibited except for those within the construction limits as shown on the Plans and as specified in Subsection 107.23.E.

All sediment control devices (except sediment basins) installed on a project shall, as a minimum, be cleaned of sediment when one half the capacity, by height, depth or volume, has been reached. Sediment basins shall be cleaned of sediment when one-third the capacity by volume has been reached.

B. Bridge Construction Over Waterways

Construction waste or debris, from bridge construction or demolition, shall be prevented from being allowed to fall or be placed into wetlands, streams, rivers or lakes.

Excavation, dewatering, and cleaning of cofferdams shall be performed in such a manner as to prevent siltation. Pumping from cofferdams to a settling basin or a containment unit will be required if deemed necessary by the Engineer.

Operations required within rivers or streams, i.e. jetting or spudding, shall be performed within silt containment areas, cofferdams, silt fence, sediment barriers or other devices to minimize migration of silt off the project.

C. Environmental Clearance of Local Material or Disposal Sites

Specific written environmental approval from the Engineer will be required for any local material or disposal sites not included in the Plans. No work shall be started at any potential local material or waste site not shown on the plans prior to receiving said environmental approval from the Engineer. Local material sites are defined as borrow pits, common borrow, base, embankment, sand clay base, topsoil base, soil cement base, granular embankment, asphalt sand, maintenance pits, or stockpiled borrow sources. Disposals sites, as defined in Standard Specification 201.3.05.E.3, may be defined as excess material, common fill, or inert waste.

The Contractor may obtain environmental approval on a site with one of two methods: 1) GDOT provided environmental surveys or 2) environmental surveys obtained by the Contractor at no cost to the Department. The Contractor must choose one method for review and approvals, which will apply to all sites required for a given project, and submit an Environmental Review Notification indicating their chosen method.

1. If the Contractor chooses to obtain their own environmental surveys, they shall be conducted by a consultant(s) prequalified to work with the Department in the following area classes: 1.06(b) – History; 1.06(e) – Ecology; and 1.06(f) – Archaeology. Background research and field methods shall be conducted in accordance with the Office of Environmental Services Environmental Procedures Manual, with documentation in an Environmental Survey Results Memorandum (template available from the Office of Environmental Services).
2. If the Contractor requests that GDOT conduct required environmental surveys, an Environmental Survey Request shall be submitted for each site (template available from the Office of Environmental Services).

Upon receipt of an Environmental Survey Request, the Office of Environmental Services shall provide environmental approval or denial within thirty (30) business days. Upon receipt of an Environmental Survey Results Memorandum, the Office of Environmental Services shall provide environmental approval or denial within ten (10) business days. The Department will not accept requests for review of sites before a Notice to Proceed is issued. Incomplete Survey Requests, surveys that are not conducted by a GDOT prequalified consultant, or surveys that do not meet the required level of field effort or documentation, will be denied by GDOT OES and may require resubmittal.

The Engineer will inform the Contractor in writing as to the approval or denial of environmental clearance. Approvals may be provided upon condition that an Environmentally Sensitive Area (ESA) be designated within or adjacent to the site prior to use. All ESA stipulations shall be adhered to in accordance with Standard Specification 107.23.F. If a site is denied, the Contractor may, at no expense to the Department, seek to obtain permits or pursue other remedies that might otherwise render the site(s) acceptable, if available. Any and all changes to proposed sites or their associated haul roads that are not included within the original Environmental Survey Request or Environmental Survey Results Memorandum, including expansion,

utilization for purposes other than those indicated in the original submittal, etc. must be submitted for further environmental review and approval prior to use.

Sites included in the Plans have environmental clearance and shall be used only for the purpose(s) specified in the Plans or other contract documents. Should the Contractor wish to expand or utilize said sites for any purpose other than that provided for in the Plans or other contract documents, specific written environmental clearance as noted above shall be obtained.

D. Control of Pollutants

Pollutants or potentially hazardous materials, such as fuels, lubricants, lead paint, chemicals or batteries, shall be transported, stored, and used in a manner to prevent leakage or spillage into the environment. The Contractor shall also be responsible for proper and legal disposal of all such materials.

Equipment, especially concrete or asphalt trucks, shall not be washed or cleaned-out on the Project except in areas where unused product contaminants can be prevented from entering waterways.

E. Temporary Work in Wetlands Outside of the Construction Limits within the Right-of-Way and Easement Areas

Temporary work in wetlands (that are not delineated with orange barrier fence) will be subject to the following requirements:

1. Temporary work in wetlands shall be accomplished by using temporary structures, timber, concrete, soil with geotextile fabric, or other suitable matting. The area shall not be grubbed.
2. Soil matting shall be protected from erosion in accordance with the Specifications.
3. Whenever temporary work is required in Saltwater Marsh Wetlands, all temporary structures and/or matting shall be removed in their entirety prior to Final Acceptance of the Project. Matted and compressed soils shall be backfilled to their original ground elevation with material meeting the requirements of Section 212 – Granular Embankment.
4. Whenever temporary work is required in Freshwater Wetlands, all temporary structures and/or matting (exclusive of soil matting to be retained in the final roadway section) shall be removed in their entirety prior to Final Acceptance of the Project.
   Once the temporary materials have been removed, the area shall be covered by Excelsior or Straw blankets according to Section 713 of the Specifications. The grassing and ground preparation referenced in Subsection 713.3.03, “Preparation”, will not be applicable to this Work.
5. The Engineer shall be notified so that a field inspection may be conducted to certify that the temporary materials were properly removed and that the area was properly restored. The Contractor shall be responsible for any corrective action required to complete this Work.
6. There will be no separate measurement or payment for this Work. The cost associated with this work shall be included in the overall Bid submitted.

F. Environmentally Sensitive Areas

Some archaeological sites, historic sites, wetlands, streams, stream and pond buffers, open waters and protected animal and plant species habitat within the existing/required Right-of-Way and easement areas may be designated as ENVIRONMENTALLY SENSITIVE AREAs (ESAs). These areas are shown on the applicable Plan sheets and labeled “ESA” (e.g. ESA – Historical Boundary, ESA – Wetland Boundary). The Department may require that some ESAs or portions thereof be delineated with orange barrier fence. The Contractor shall install, maintain, and replace as necessary orange barrier fence at ESAs as delineated in the Plan sheets.

The Contractor shall not enter, disturb, or perform any construction related activities, other than those shown on the approved plan sheets within areas designated as ESAs including ESAs or portions thereof not delineated with orange barrier fence. This includes but is not limited to the following construction activities: clearing and grubbing; borrowing; wasting; grading; filling; staging/stockpiling; vehicular use and parking;

sediment basin placement; trailer placement; and equipment cleaning and storage. Also, all archaeological sites, historic sites, wetlands, streams, stream and pond buffers, open waters, and protected animal and plant species habitat that extend beyond the limits of existing/required Right-of- Way and easement areas shall be considered ESAs and the Contractor shall not perform any construction related activities (such as those listed above) within these areas or make agreements with property owners to occupy these areas for construction related activities (such as those listed above). The Contractor shall make all construction employees aware of the location(s) of each ESA and the requirement to not enter or otherwise disturb these areas.

If the Contractor is found to have entered an ESA, either within or outside the project area, for any purpose not specifically shown on the approved plan sheets, the Department may, at its discretion, issue a stop work order for all activities on the project except erosion control and traffic control until such time as all equipment and other items are removed and the ESA is restored to its original condition.

However, should damage to an ESA occur as a result of the Contractor's action in violation of this section, and notwithstanding any subsequent correction by the Contractor, the Contractor shall be liable for any cost arising from such action, including but not limited to, the cost of repair, remediation of any fines, or mitigation fees assessed against the Department by another government entity.

G. Protection of Migratory Birds and Bats

The following conditions are intended as a minimum to protect migratory birds and bats during construction activities.

1. Project personnel shall be advised about the potential presence and appearance of federally protected migratory birds, including the barn swallow (*Hirundo rustica*), cliff swallow (*Petrochelidon pyrrhonota*), and eastern phoebe (*Sayornis phoebe*), and that there are civil and criminal penalties for harassing, harming, pursuing, hunting, shooting, wounding, killing, capturing, or collecting these species in violation of the Migratory Bird Treaty Act of 1918. The law protects adults, fledglings, nestlings, eggs, and active nests. All bats are protected under Georgia state law (Official Code of Georgia § 27-1-28), with some species protected under the federal Endangered Species Act of 1973. Pictures and habitat information shall be posted in a conspicuous location in the Project field office until such time that construction has been completed and time charges have stopped.

2. The demolition of existing bridge and culvert, the extension of existing culvert, and bridge maintenance activities on the underside of the bridge deck shall take place outside of the breeding and nesting season of phoebes, swallows and other migratory birds, which begins April 1 and extends through August 31, unless exclusionary barriers are put in place to prevent birds from nesting. For bridges, exclusionary barriers may be made of plastic, canvas or other materials proposed by the Contractor and approved by the State Environmental Administrator prior to installation. For box culverts, exclusionary barriers may be overlapping strips of flexible plastic (also called "PVC Strip Doors" or "Strip Curtains") or an alternate material proposed by the Contractor and approved by the State Environmental Administrator prior to installation. Exclusionary barriers must be installed on the bridge(s) and/or box culvert(s) prior to March 1 or after August 31, but in no time in between this period. Exclusionary barriers are not a guaranteed method of preventing migratory birds from nesting beneath bridges and work schedules shall take into account the possibility that barriers will not be successful. If exclusionary barriers are to be used, these steps shall be followed:

    a. The Project ecologist shall be notified by phone (404) 631-1100 of the decision to install exclusionary barriers and the date of the proposed installation prior to the installation of any exclusionary devices.

    b. The structure(s) shall be checked for nests prior to the placement of exclusionary barriers. If nests are present, they shall be inspected to ensure that eggs or birds are not present. If the nests are found to be occupied, construction activities associated with the bridge shall be postponed until after August 31 when the breeding season is complete.

c. For any box culvert(s) being replaced, exclusionary barriers shall be installed on both the inlet and outlet openings. For any box culvert(s) being extended, exclusionary barriers shall be placed on the opening(s) (inlet and/or outlet) where work is taking place. For bridge(s) being removed, barriers shall be installed along the full length of the bridge(s). In all cases, barriers shall be installed prior to March 1 and left in place until August 31 or until the culvert removal, culvert extension, or bridge demolition is complete. If the exclusionary barriers fail to prevent nesting (i.e., birds are able to bypass barriers and build nests), construction activities associated with the bridge shall be postponed until after August 31.

d. During construction activities, exclusionary barriers shall be inspected daily for holes or other defects that impair its ability to exclude migratory birds from nesting beneath the bridge. Any holes or defects shall be repaired immediately.

e. Entanglement and/or entrapment of barn swallows, cliff swallows, and eastern phoebes in exclusionary netting constitutes harm to migratory birds. Any entanglement and/or entrapment of migratory birds shall be reported immediately to the Project Engineer, who in turn will notify the State Environmental Administrator, Georgia Department of Transportation, Office of Environmental Services at (404) 631-1101.

3. Migratory birds may nest in other structures or natural features that will be impacted by construction activities. If active nests containing eggs are encountered within the footprint of construction activities, the finding shall be reported immediately to the Project Engineer, who in turn shall notify the State Environmental Administrator, Georgia Department of Transportation, Office of Environmental Services at (404) 631-1101. All activity within 50 feet of active nests shall cease pending consultation by the Department with the U. S. Fish and Wildlife Service and the lead Federal Agency.

4. When working on bridges and culverts, sightings of bat species shall be reported immediately to the Project Engineer who in turn will notify the State Environmental Administrator, Georgia Department of Transportation, Office of Environmental Services at (404) 631-1101. All construction activity on the structure shall cease pending consultation by the Department with the U. S. Fish and Wildlife Service and/or the Georgia Department of Natural Resources and/or the lead Federal Agency. The Department will inform the Contractor of any changes to the project.

5. In the event any incident occurs that causes harm or injury to migratory birds during construction activities, the incident shall be reported immediately to the Project Engineer who in turn shall notify the State Environmental Administrator, Georgia Department of Transportation, Office of Environmental Services at (404) 631-1101. All activity shall cease pending consultation by the Department with the U. S. Fish and Wildlife Service and the lead Federal Agency.

6. Within 30 days of the completion of construction and the stopping of time charges, a report shall be provided to the State Environmental Administrator, Georgia Department of Transportation, Office of Environmental Services, 600 West Peachtree Street NW, Atlanta, Georgia 30308. GDOT in turn will provide copies of the report to the U.S. Fish and Wildlife Service, the Georgia Department of Natural Resources Wildlife Resources Division, and the lead Federal Agency. The following information will be included in the report:

    a. Contractor name and address.

    b. Name and title of report preparer.

    c. GDOT Project Identification (PI) number.

    d. County(s) in which project is located.

    e. Project description.

f. Construction start and end dates.

g. Date GDOT was notified of intent to install barrier(s) per # 107.23G.2.a.

h. Number and type(s) of structures on which exclusion barriers were installed.

i. Type(s) of exclusion material used on each structure.

j. Start and end date(s) of installation of exclusionary barrier on each structure.

k. Start and end date(s) of removal of exclusionary barrier from each structure.

l. Photographs of each structure before and after exclusionary barrier installation.

m. Statement regarding whether the exclusionary barrier was effective in deterring bird use of the structure during construction.

n. Description of any incidents causing harm or injury to migratory birds during construction. This should include incidents that were reported as required under 107.23G.5.

o. Description of any sightings of bat species when working on bridges and culverts. This should include incidents that were reported as required under 107.23G.4.

7. All costs pertaining to any requirement contained herein shall be included in the overall bid submitted unless such requirement is designated as a separate Pay Item in the Proposal.

107.24 Closing of Roadways without On-Site Detours

When existing roadways are to be closed to through traffic and on-site detours are not provided, the Contractor shall submit a written notice to the Engineer for approval 14 days prior to the closure of the existing roadways.

After receiving approval from the Engineer for the closure, the Contractor shall install signs at each closure site, in accordance with the MUTCD, to inform the traveling public of the proposed closure, including the date of closure. The sign shall be placed 5 days prior to the closure, at the direction of the Engineer.

Prior to the closure, the Area Engineer will inform local government officials and agencies, local news media, and the DOT Public Information Office of the proposed closure of the roadways.

107.25 Disruption to Residential and Commercial Property

The Contractor shall plan, coordinate, and prosecute the work such that disruption to personal property and business is held to a practical minimum.

All construction areas abutting lawns and yards of residential or commercial property shall be restored promptly. Backfilling of each drainage structure or section of curb and gutter, sidewalk, or driveway shall be accomplished as soon as adequate strength is obtained. Finishing, dressing and grassing shall be accomplished immediately thereafter as a continuous operation within each area being constructed with emphasis placed on completing each individual yard or business frontage. Care shall be taken to provide positive drainage to avoid ponding or concentration of runoff.

Handwork, including raking and smoothing, shall be required to ensure that roots, sticks, rocks, and other debris is removed in order to provide a neat and pleasing appearance. Grassing, when in season, shall immediately follow in order to establish permanent cover at the earliest date. If grassing is not in season, proper erosion control shall be installed and maintained.

The work described herein shall be in addition to that required by Subsection 104.07 “Final Cleaning Up” and Subsection 105.16 “Final Inspection and Acceptance.”

Georgia Department of Transportation

Programmatic Technical Provisions

For

Design-Build Agreement

P.I. No. 0015524

FY 17 Bridge Replacement Project

Attachment 12-1

Supplemental Specification 156 – GPS Specifications for Conveyance Structures GIS Mapping

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA
SUPPLEMENTAL SPECIFICATION

Section 156—GPS Specifications for Conveyance Structures GIS Mapping

156.1 General Description

Perform the items of this work according to this Specification.

This work includes:

- Collecting sub-meter locations and attributes for specified stormwater/drainage-related assets within the project limits.
- Compiling, processing, and submitting the GIS data in accordance with the Department's policies and guidelines.
- Maintaning quality control and quality assurance while performing the work.

156.1.01 Definitions

General Provisions 101 through 150

156.1.02 Related References

A. Standard Specifications

General Provisions 101 through 150

B. Referenced Documents

General Provisions 101 through 150

GDOT Policy: 8075-1-Database Design and Modeling Standard

GDOT Policy: 8075-5-Metadata Registry

GDOT Policy: 8085-1- Geospatial Data Policy and Standards

GDOT Policy: 8085-2- GPS Data Collection Policy

156.1.03 Submittals

General Provisions 101 through 150

156.2 Materials

General Provisions 101 through 150

156.3 Construction Requirements

General Provisions 101 through 150

156.3.01 Personnel

Furnish qualified personnel capable of performing the work in accordance with the Department's above-stated policies and procedures detailed in GDOT Publications on the Department's website.

156.3.02 Accuracy

Ensure that data will be accurate within 1 meter horizontal for all assets. Collect and process data in accordance with the Department's Policies and Procedures detailed in GDOT Publications.

156.3.03 Coordinate System

Submit the data to the Department in accordance with the Department's policies and procedures defined in GDOT Publications. See GDOT Policy 8085-1- Geospatial Data Policy and Standards.

Horizontal coordinate system definition:
Coordinate system name:
*Projected coordinate system name:
NAD_1983_Georgia_Statewide_Lambert
*Geographic coordinate system name:
GCS_North_American_1983

Planar: Map projection: *Map projection name: Lambert Conformal Conic
Lambert conformal conic:
*Standard parallel: 31.416667
*Standard parallel: 34.283333
*Longitude of central meridian: -83.500000
*Latitude of projection origin: 0.000000
*False easting: 0.000000
*False northing: 0.000000

Planar coordinate information:
*Planar coordinate encoding method: coordinate pair Coordinate representation:
*Abscissa resolution: 0.004167 *
Ordinate resolution: 0.004167
*Planar distance units: survey feet

Geodetic model:
*Horizontal datum name: North American Datum of 1983
*Ellipsoid name: Geodetic Reference System 80
*Semi-major axis: 6378137.000000
*Denominator of flattening ratio: 298.257222

Vertical coordinate system definition:
Altitude system definition:
*Altitude resolution: 1.000000
*Altitude encoding method: Explicit elevation coordinate included with horizontal coordinates

156.3.04 Format

Provide data in ESRI ArcGIS 10.2 or newer file-based geodatabase format.

156.3.05 Schema and Metadata

Provide all the data in compliance with database schema and metadata located in GDOT Policy 8075-1-Database Design and Modeling Standard and GDOT Policy 8075-5-Metadata Registry for download.

156.4 Measurement

The work under this contract item is not measured separately for payment.

156.5 Payment

This contract item completed and accepted will be paid at the Lump Sum Price bid, and the payment will be full compensation for all work completed as required by the Department. Any unnecessary work, overruns, costs, etc., resulting from inaccurate data submitted by the Contractor will be deducted from Contractor payments.

Payment will be made under:

Item No. 156	GPS Data Collection and Submittal	Per Lump Sum

Georgia Department of Transportation
Programmatic Technical Provisions

Design-Build Project

VOLUME 3 MANUALS
(Technical Documents)

Volume 3 Manuals (Technical Documents)

All Work shall conform with all applicable Manuals and Guidelines developed for and including AASHTO, FHWA, GDOT, and additional requirements stated in this document and reasonably inferred therefrom. It is the Design-Build Teams responsibility to verify order of the precedence of any State or Federal manual requirement where any potential conflict may exist. The Design-Build Team shall coordinate with the appropriate State and/or Federal agency to confirm the policy and regulations to avoid any conflict of the following manuals prior to design and/or construction. Following is a list of manuals and guidelines that shall be used, in the performance of Work provided that the Work shall not be governed solely by such manuals and guidelines listed herein, and provided further that it is the Design-Build Team's responsibility to locate and utilize the most current edition at the time of the RFP advertisement, including updates, of all such referenced materials for the Work required.

1. AASHTO – A Policy on Geometric Design of Highways and Streets
   https://bookstore.transportation.org/collection_detail.aspx?ID=110
2. AASHTO – Guide for High-Occupancy Vehicle Facilities
   https://bookstore.transportation.org/Item_details.aspx?id=114
3. AASHTO – Standard Specification for Structural Supports for Highway Signs, Luminaires and Traffic Signals (LTS-6)
   https://bookstore.transportation.org/collection_detail.aspx?ID=126
4. AASHTO – Roadside Design Guide
   https://bookstore.transportation.org/item_details.aspx?ID=1807
5. AASHTO – Roadway Lighting Design Guide
   https://bookstore.transportation.org/item_details.aspx?ID=1412
6. AASHTO – LFD Standard Specifications for Highway Bridges, 17th Edition
   https://bookstore.transportation.org/Item_details.aspx?id=51
7. AASHTO – AASHTO LRFD Bridge Construction Specifications, 6th Edition
   https://bookstore.transportation.org/collection_detail.aspx?ID=132
8. AASHTO –Manual for Bridge Evaluation, 2nd Edition, with 2011 Interim Revisions
   https://bookstore.transportation.org/item_details.aspx?ID=1809
9. AASHTO – Guide Specification for Structural Design Sound Barrier
   https://bookstore.transportation.org/item_details.aspx?ID=1155
10. AASHTO – AWS D1.1/ANSI Structural Welding Code – Steel
    http://www.techstreet.com/cgi-bin/detail?doc_no=AWS%7CD1_1_D1_1M_2008&product_id=1519645
11. AASHTO – D1.5/AWS D1.5 Bridge Welding Code
    https://bookstore.transportation.org/item_details.aspx?ID=1756
12. AASHTO – Highway Capacity Manual
    http://www.techstreet.com/cgi-bin/detail?product_id=957255

13. Federal Highway Administration (FHWA) Roadway Construction Noise Model (RCNM) and Guideline Handbook
http://www.fhwa.dot.gov/environment/noise/construction_noise/rcnm/index.cfm
14. AISC Manual of Steel Construction, referred to as “AISC Specifications”
http://www.aisc.org/store/p-1578-steel-construction-manual-thirteenth-edition.aspx
15. American National Standards Institute (ANSI)/ Illuminating Engineering Society of North America (IESNA) RP-14-8-Recommended Practice for Roadway Lighting
http://www.ies.org/store/product/roadway-lighting-ansiies-rp814-1350.cfm
16. America Disabilities Act Accessibility Guidelines (ADAAG)
http://www.ada.gov/stdspdf.htm
17. Manual of Uniform Traffic Control Devices (MUTCD)
http://mutcd.fhwa.dot.gov/
18. GDOT – Signing and Marking Design Guidelines
http://www.dot.ga.gov/PS/DesignManuals/DesignGuides
19. GDOT – Utility Accommodation Policy and Standards Manual
http://www.dot.ga.gov/PS/Utilities
20. GDOT - Geotechnical Engineering Manual and Guidelines
http://www.dot.ga.gov/PS/Materials
21. GDOT – STI (Sampling, Testing and Inspection) Quick Guide and Documents
http://www.dot.ga.gov/PS/Materials
22. GDOT – Qualified Products List (QPL)
http://www.dot.ga.gov/PS/Materials/QPL
23. GDOT – Pavement Design Manual
http://www.dot.ga.gov/PS/Materials
24. GDOT – Manual on Drainage Design for Highways
http://www.dot.ga.gov/PS/DesignManuals/DesignGuides
25. GDOT – Automated Survey Manual
http://www.dot.ga.gov/PS/DesignManuals/DesignGuides
26. GDOT – Regulations for Driveway and Encroachment Control
http://www.dot.ga.gov/PS/DesignManuals/DesignGuides
27. GDOT – Electronic Data Guidelines
http://www.dot.ga.gov/PS/DesignManuals
28. GDOT – Plan Development Process
http://www.dot.ga.gov/PS/DesignManuals/DesignGuides
29. GDOT – Plan Presentation Guide
http://www.dot.ga.gov/PS/DesignManuals
30. GDOT – Preliminary Field Plan Review Checklist
http://www.dot.ga.gov/PS/DesignManuals/DesignResources
31. GDOT – Final Field Plan Review Checklist
http://www.dot.ga.gov/PS/DesignManuals/DesignResources

32. GDOT – Design Policy Manual
http://www.dot.ga.gov/PS/DesignManuals/DesignGuides
33. GDOT – ITS Design Manual
http://www.dot.ga.gov/PS/DesignManuals/DesignGuides
34. GDOT – NPDES General Permit Guidance
http://www.dot.ga.gov/PS/DesignManuals/DesignGuides
35. GDOT – LRFD Bridge and Structure Design Manual
http://www.dot.ga.gov/PS/DesignManuals/DesignGuides
36. GDOT – Environmental Procedures Manual
http://www.dot.ga.gov/PS/DesignManuals/EnvironmentalProcedures
37. GDOT – Standard Specifications, Construction of Transportation Systems
http://www.dot.ga.gov/PS/Business/Source/Specifications
38. GDOT – Special Provisions, Shelf Special Provisions, Reference Special Provisions, Supplemental Specifications
SharePoint Site
39. GDOT – Construction Standards and Details
http://standarddetails.dot.ga.gov/stds_dtls/
40. GDOT – Right of Way Manual
http://www.dot.ga.gov/PartnerSmart/DesignManuals/ROW/00ExternalRightofWayManual.pdf
41. GDOT – Acquisition Guide for Local Public Agencies
http://www.dot.ga.gov/PartnerSmart/DesignManuals/ROW/ROW-AcquisitionGuideforLocalPublicAgenciesSponsors.pdf
42. GDOT – Statewide MS4 Permit
http://epd.georgia.gov/sites/epd.georgia.gov/files/related_files/site_page/Final_DOT_SW_NPDES_Permit_MS4_Dec_2011.pdf
43. GDOT – Design of Post-Construction BMPs
http://www.dot.ga.gov/PS/DesignManuals/DesignGuides
44. Georgia Soil and Water Conservation Commission - Manual for Erosion and Sediment Control in Georgia
http://gaswcc.georgia.gov/manuals
45. GDOT – Stormwater System Inspection and Maintenance Manual
http://www.dot.ga.gov/PS/DesignManuals/DesignGuides
46. Bridge Inspection Evaluation Maintenance Manual
https://bookstore.transportation.org/item_details.aspx?ID=1617
47. FHWA Traffic Detector Handbook
http://www.fhwa.dot.gov/publications/research/operations/its/06108/06108.pdf
48. FHWA Mitigation Strategies for Design Exceptions
http://safety.fhwa.dot.gov/geometric/pubs/mitigationstrategies/fhwa_sa_07011.pdf
49. FHWA Traffic Monitoring Guide
http://www.fhwa.dot.gov/ohim/tmgbook.pdf

50. Occupational Safety and Health Administration Standards (OSHA)
http://www.osha.gov/pls/oshaweb/owasrch.search_form?p_doc_type=STANDARDS&p_toc_level=1&p_keyvalue=Construction
51. National Electrical Safety Code ANSI C2 (NESC)
http://standards.ieee.org/nesc/nesc_preprint.html
52. U. S. Environmental Protection Agency Regulations
http://www.epa.gov/lawsregs/
53. GDOT – Public Information Policy Manual
54. American Railway Engineering and Maintenance-of-Way Association (AREMA)
https://www.arema.org/
55. GDOT – Work Zone Safety and Mobility Policy
http://www.dot.ga.gov/PartnerSmart/Training/Documents/WZS/WorkZoneSafety/images/WorkZoneSafetyandMobilityPolicyRevwiithsubpartK.DOCX
56. GDOT – Quality Control and Quality Assurance Manual
http://www.dot.ga.gov/PS/DesignManuals/DesignResources
57. Federal Railroad Administration Regulations
http://www.fra.dot.gov
58. MUTCD – Standards Highway Signs and Markings
http://mutcd.fhwa.dot.gov/ser-shs_millennium.htm
59. Georgia Stormwater Management Manual
http://www.georgiastormwater.com/
60. GDOT – ITS Strategic Deployment Plan (Posted on SharePoint)
61. ITE/AASHTO Traffic Management Data Dictionary (TMDD), Standards for Traffic Management Center to Center Communications Version 2.1
62. AASHTO – A Policy on Design Standards Interstate System
https://bookstore.transportation.org/item_details.aspx?ID=1175
63. Georgia Traffic Incident Management Guidelines
http://www.timetaskforce.com/documents/TIM/GeorgiaTIMGuidelines_FINAL_V0003.pdf
64. GDOT – Construction Manual and Form Documents
http://www.dot.ga.gov/PartnerSmart/Business/Source/Pages/ConstructionSpecs.aspx
65. Other manuals, documents, procedures and standards as referenced in the DB Documents